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EDITORIAL

INFLUENZAL INFECTIONS.

Dr. George Mathers, of Chicago, contributes an illuminating article on the specific organisms of human grip and equine influenza (*Journ. Am. Med. Assn.*, March 3, 1917). For centuries, epidemics of acute respiratory infections have occurred at irregular intervals, and have always defied preventive measures. These infections have not only exacted a death-toll of their own, but, by lowering the vitality of individuals, they have notably increased the mortality from associated or pre-existing diseases.

That the causative factor in epidemics of grip has a distinct

character is clearly shown by the close similarity of symptoms and complications during several centuries and under varying degrees of civilization. This factor has a universal distribution, and most variable pathogenicity. The most important bacteriological work in this field was done in the great pandemic of 1889 to 1892. The larger group of investigators found streptococci, pneumococci and staphylococci in the sputum and post mortem material from cases of influenza, and regarded the disease as a streptococcus, or mixed streptococcus and pneumococcus infection. In 1892, Pfeiffer published his great work on influenza, in which he described a small Gram-negative hemoglobinophilic bacillus as the causative factor. Pfeiffer isolated influenza-bacilli from the sputum and bronchial tissues of persons suffering from the disease, but he was unable to find these in the bloodstream, or satisfactorily to reproduce the disease in animals, although many attempts were made. Recent investigators have repeatedly found these bacilli in various diseases, such as whooping-cough, tuberculosis, chronic bronchitis, and many other diseases; and, with the exception of influenzal meningitis, the influenza bacillus is not considered as of prime importance. Furthermore, this organism has not been found regularly associated with epidemics of acute respiratory infections since 1890.

A severe epidemic of acute respiratory infections spread over the United States in the winter of 1915-16, which closely resembled the epidemic of 1890. During this outbreak, Mathers studied sixty-one cases. In all of these cases, the nasal discharge and sputum were examined, and blood-cultures were made in a few instances. In forty-six cases, hemolytic streptococci were found in predominating numbers, and in six of these cases these organisms were isolated from the nose and throat in pure cultures. Green-producing streptococci were found in thirty instances, with one pure culture, and pneumococci in thirty cases with four pure cultures. Staphylococci were isolated in fifty cases, *Micrococcus catarrhalis* in six, and Friedlander's bacillus in one case. The influenza-bacillus was found in only one case. Trumieliff's *Bacillus rhinitis* was found in the nasal discharge in two cases, and fusiform bacilli were not uncommonly observed in anaerobic cultures. The *Bacillus influenzæ* was not found in any post mortem material. The question

WASHINGTON GOVERNMENT PRINTING OFFICE. Washington, D. C., 1917.

Public Health Reports. Volume 32, Numbers 1, 2, 3, 4.

Report of the Department of Health of the Panama Canal. November, 1916.

MISCELLANEOUS:

Clinical Gynecology, by James C. Wood, A. M., M. D., F. A. C. S. (Boericke & Tafel, Phila., 1917).

Proceedings of the Tenth Annual Meeting of the Association of Life Insurance Presidents. New York, December 14 and 15, 1916.

Relative Values in Public Health Work, by Franz Schneider, Jr. (Department of Surveys and Exhibits, Russell Sage Foundation, N. Y.).

Monthly Bulletin Louisiana State Board of Health. New Orleans, January, 1917.

Abraham Lincoln, by Curran Pope, M. D. (Address delivered before Muldraugh District Medical Association, Larue County, Ky.).

Soochow Hospital Extras. (An appeal for a larger hospital in honor of Dr. Park's 60th birthday).

REPRINTS

A Case of Amoebic Abscess of the Liver Occurring Twenty Years After the Original Attack of Dysentery, by George C. Low, M. A., M. D.

The Treatment of Lamblia Infections, by Clifford Dobell, M. A., and George C. Low, M. A., M. D.

Fern Notes, by Oliver Atkins Farwell.

A Sudanese Actinomycosis, by Albert J. Chalmers, M. D., F. R. C. S., D. P. H., and Capt. R. C. Archibald, M. B., R. A. M. C.

Yodoterapia y Salicilo-Yodoterapia Endovenosa; os Nematoides do Tubo Digestivo de que Modo Infestam o Organismo Prophylaxia? Pelo Alfredo A. da Matta.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans.

NOTE.

As the report of the Board of Health for January, 1917, was not yet issued on February 26, we are compelled to omit our Mortuary Report in this issue.

Both the January and the February report will be published in our April number.

of filtrable viruses cannot be excluded in such diseases, but in three early cases in which virus-cultures were made, no results were obtained.

The results seem to indicate that the virulent hemolytic streptococcus must be considered as a very important factor in the etiology of the grippal diseases. Whether or not the infection is primarily a streptococcus infection is not yet determined; but, as the disease progresses, this organism rapidly becomes of paramount importance.

There have been numerous coincident widespread epidemics of acute distempers among horses and other animals. These equine epidemics closely simulated the human epidemics of respiratory infections. Such an epidemic occurred among horses in the United States during the winter of 1915-16. Great numbers of horses were attacked, and the disease spread rapidly along the various shipping routes to all the great concentration markets in the country. Mathers studied this epidemic in the Union Stock Yards veterinary hospitals in Chicago. The examinations included bacterial cultures from the blood and nasal discharges obtained during all stages of the disease, and from fresh post mortem material. This work, carried out on more than a hundred horses, yielded stikingly uniform results. Hemolytic streptococci were isolated in pure or mixed cultures from the nasal discharge before death, and from infected tissues after death in almost all instances. Other organisms, such as staphylococci, green-producing streptococci, Gram-negative bacilli, and *Bacillus subtilis* were found occasionally in the cultures from nasal discharges. The *Bacillus tetani* was also found in a few instances.

Dr. Mathers' investigations strongly tend to show that the hemolytic streptococcus was a factor of primary importance in the etiology of this epidemic infection in horses, though final demonstration must wait on further investigations.

The hemolytic streptococci from human and equine sources, although similar in many characteristics, differ widely in pathogenicity, and seem to be highly parasitic for their specific hosts. The pathological anatomy of the two epidemic respiratory diseases, human and equine, however, are quite analagous and typical of streptococcus infections.

It is to be regretted that Dr. Mathers has not found a special name for his hemolyic streptococci, human or equine. One fact stands out prominently from his investigations, and that is that the classical *Bacillus influenzæ* is a negligible quantity in the human "grippal" diseases as well as the equine analogues. Dr. Mathers' study of two diseases, apparently caused by two organisms of similar morphology and cultural characteristics, occuring under similar epidemiological conditions and characterized by identical pathological changes, emphasizes the importance of comparative pathology in the development of human medicine.

INSTRUCTION IN PUBLIC HEALTH A NECESSITY.

State Medicine has moved into its proper place in the last few years. All of us recollect the time when the health authorities occupied rather perfunctory offices, which, in many places, were desirable political sinecures.

The conception of State Medicine, however, has been broad and contemplated not only the regulation of a sanitary community but the prevention of disease; the scope provided the control of the practise of medicine in all of its branches and purviews. Gradually the state has acknowledged the function of State Medicine until to-day the incumbent of the office of the health official must be more than a mere graduate of a medical school.

The interpretation of a sanitary code requires a wide knowledge of the semiology of contagious diseases as well as of the laws which govern their control. The laboratory side is often relegated, but should at least be known well enough for its proper direction. Public utilities, foods and drugs, carriers, sanitary practises, biological variants in health or disease, and even certain engineering phases are related to present day sanitation as it should be conducted.

The task is a large one—almost too large for a single office. The review of any report of the Census Bureau is a direct argument for this. Although the United States has recognized the need of health boards for fully a hundred years, the country as a whole is wofully delinquent in some of the elemental things related to the health control.

As yet there is no state or governmental control of vital

statistics. Everywhere this is a voluntary matter. The result is a general neglect by the public of records which in older countries are supremely important; so far as birth record is concerned, the visible evidence is essential to citizenship.

This is but one among the number of neglected phases of public health.

The expanded office of the U. S. Public Health Service has been a large factor in bringing about public interest in health matters and the work of this bureau of the Treasury Department has, through the earnest endeavor of some of its personnel, created active public health work among the people themselves—notably in the hookworm campaign. In time the hookworm campaign may be held directly responsible for the general interest in sanitary practises throughout the Southern States and the whole ferment has brought new light into state attitude towards sanitation generally.

The Rockefeller Board, with its organized officials interested in epidemic sociological diseases, has been brought into the field, with unlimited means at its disposal to work out a universal plan for disease eradication and control. There has been enthusiastic co-operation on the part of officials and of the medical profession and also by state authorities. Foreign countries have accepted this splendid purpose of the Rockefeller Commission and, already, surveys are under way in a number of countries—but the work is seriously embarrassed by the lack of men qualified to render service.

Hygiene for years has been a step child in the medical curriculum. With medical jurisprudence it has occupied its place as a perfunctory response to an obligation, but not wholly understood. The real scope of hygiene is not impressed upon the medical student, who accepts the obligation of the course in exactly the spirit in which the course is given him, with the result that he finishes his medical course with a hazy idea of the subject and scarcely is able to define the term which covers it.

Hygiene must be understood as the conservation of individual and community health and, when the obligation of such a definition is accepted, this subject in the medical curriculum would move from the last to the first place.

Not all medical schools are entitled to the charge of neglect in this regard, but so few of them fulfill any sort of satisfactory

instruction in hygiene that it is perfectly fair to make a general demand for better service hereafter.

It is entirely proper that the systematic courses in medicine and surgery and their subsidiary divisions should be fully taught in the medical school, but this is a day of preventive medicine and preventive medicine is just one phase of hygiene.

No physician is really trained until he is familiar with modern obligations in preventing disease and in keeping the public healthy. Laws alone will not keep a community sane; it is necessary that the laws should have intelligent interpretation in their administration. The graduate from a medical school should have such qualifications.

The public is now so well informed of sanitary needs that it is not satisfied with mere political appointees. A medical man may have all kinds of respect for his general ability, but he can no longer pose as an expert when he knows and the public knows that in this regard he is an imposter.

Engineering schools have met the situation by training sanitary engineers and in more than one city the question has arisen as to whether the sanitary engineer is not really better qualified as a health officer than is the medical man. The engineer is trained in efficiency. He is accustomed to care of detail. A large part of the work in sanitation has no immediate reference to disease and the engineer can easily co-ordinate under his control a group of medical men who can satisfy the purely medical phases of the community work.

All of this has come about from the acknowledgment that the medical man who usually seeks the place of sanitary official is not trained. A reflex of this defect was emphasized in the first examination held by the National Board of Medical Examiners, when it was found that not one of ten candidates passed the examination in hygiene—occasioning the comment from the examiner that this was no surprise, as the large bulk of men who came up for the examination for admission to the Corps of the U. S. Public Health Service showed a woful lack of knowledge of hygiene and that they were positively ignorant of the laboratory side of the subject.

The Rockefeller Board has endowed Johns Hopkins with funds for a special institute of hygiene and this will satisfy some of the need for trained men. The University of Pennsylvania, Har-

vard and Tulane have given systematic instruction in hygiene for several years, but even in these schools, there is a notable lack of enthusiasm for such work. The medical student does not appreciate the importance and the value of such courses and no measures have been taken to stimulate such instruction.

The growing demand for state authority in Public Health and the requirement for trained men to fill the public health offices fill more and more stimulate the needed instruction, but the necessity for such instruction is pressing at this time.

Sooner or later, every phase of State Medicine falls within the life work of the physician and the time has come when the physician should be educated to meet the problems as they come and not to side-step them.

*Isadore Dyer.**

LOUISIANA STATE MEDICAL SOCIETY.

The next meeting of our state society will take place this month from the seventeenth to the nineteenth at Alexandria. We would have been happy to give our readers some information regarding the meeting, but have been unable to secure any. While other societies seem anxious to obtain all the publicity they can and we are frequently earnestly solicited to publish notices of society meetings, our request for news has been ignored by our own society.

Nevertheless, we hope and trust the April, 1917 meeting will be eminently successful and urge all members to attend. Alexandria is centrally located, possesses a magnificent hotel; its local profession has already given proof of its hospitality and ability to engineer a good meeting; everything points to an agreeable and satisfactory session.

ERRATUM.

In last month's JOURNAL, the gay and festive printer took liberties with the title of Dr. Paul A. McIlhenny's paper which should have read "A New WRENCH to Aid in the Correction of Deformed Feet." Evidently a pro-ally, the printer in his enthusiasm made it say "A New FRENCH Aid, etc." This is the more regrettable as the wrench is a device of Dr. McIlhenny himself.

*Discussion presented to the Conference on Community Health Work, New Orleans, March 16, 1917.

ORIGINAL ARTICLES

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

HOOKWORM INVESTIGATION IN THE ANTIMONY MINES, SINHWA, HUNAN PROVINCE, CHINA.

By W. S. CHOW, M. D.,

House Officer, Hunan-Yale Medical Hospital, China.

The prevalence of hookworm infection among miners has long been recognized in many parts of the world. In a report entitled "Hookworm Infection in Foreign Countries,"[1] published in 1911 by the Rockefeller Sanitary Commission, references to particular districts abound, and a preliminary study of the incidence of the disease in the mines of Central China was made in 1914 by Dr. A. C. Reed, of the Hunan-Yale Medical Hospital at Changsha. Dr. Reed's report[2] was confined to the deep mines at the Pinghsiang colliery, province of Kiangsi. The present study, made possible by a grant from the International Health Board of the Rockefeller Foundation, is an inquiry into the prevalence of hookworm in the Sinwha mining district of Hunan province.

Reports on the presence of ankylostomiasis have been made from many districts of Hunan, but have been based largely on routine hospital observations and, with the exception of the Pinghsiang report, have not been part of a general survey. They have involved neither a first-hand study of conditions at the mines nor a special medical approach to the population to facilitate fecal examination. No report of any kind has been published on the incidence of the disease in Sinhwa and it was considered of importance from a public health point of view to undertake this work, particularly so because the rapid development of the antimony mining industry has in the last few

1. "Hookworm Infection in Foreign Countries," a report by the Rockefeller Sanitary Commission, 1911. Cf. pp. 61, 64, 77, etc.

2. "Investigation of Hookworm Infection at the Pinghsiang Colliery, Central China," by A. C. Reed, M. D. **American Journal Public Health**, 1914, iv. 1130.

years drawn tens of thousands of workmen from other occupations, chiefly farming, to the Sinhwa district, and it was shown that sanitary measures had been almost wholly neglected and that disease, especially of the digestive system, abounded.

Location of Survey.

The place selected for the survey was "Hsi Kwang Shan" ("antimony-mine mountain"), a valley located in a wedge of hills between the Tze and the Yuen rivers, near the center of Hunan province and about twenty miles southeast of the city of Sinwha. The altitude is approximately 2,500 feet above sea level; the latitude 27° North. Surrounding the valley are miles of mountains and hills said to be rich in minerals. Here and there are terraced rice fields and taro patches, which, during the dry season suffer from drouth, so that crops fail and foodstuffs have to be imported from other districts, causing prices to rise 50% above those in surrounding districts.

The geological and meteorogical factors influencing the prevalence of disease in Sinhwa are different from those at Pinghsiang, Changteh, etc. The soil is clayey and dry; coal is not present and the abundance of antimony ore suggests a different geological formation. The air is bracing and free from the humidity of the lower river valleys of Hunan. Mining methods, also, are essentially different from those at Pinghsiang. At the latter place deep shafts and long adits combine to keep the workmen at a great distance from the outlet, thus immuring him in unhygienic surroundings and encouraging personal uncleanliness. At Sinhwa shallow boring keeps the workers near the surface, where conditions are more easily made healthy. The relation of the mines to the surrounding agricultural district in Sinfha is so clearly defined that it is possible both to study the direction in which infection travels and to institute separate mehods of control in each area.

Antimony Mining in Sinhwa.

According to local report, the first mining for antimony in this district was undertaken about ten years ago by natives of the immediate vicinity. As soon as the presence of the ore was reported at the capital, the Provincial Mining Bureau sent down an engineer to begin operations for the government, and in 1911

private firms and individuals began to stake claims. In 1914, due to the demand for antimony for munitions of war, there was great increase in mining activity at Sinhwa. At present, wherever antimony is to be found throughout Hunan province, groups of men are seen tunneling into the dry, clayey hillsides.

Conditions in the Mines.

Coming to "Hsi Kwang Shan," one finds a long line of mining operations. Within a stretch of four miles at least two hundred groups of men are at work, separated by intervals of only a few yards. On the surface the claims have been staked with a moderate degree of regard for boundaries, but underground the thin partitions frequently break through, causing much confusion and quarrelling.

The shafts are dark, poorly ventilated and poorly drained. They run in zigzag directions following the vein of the ore, with an inclination of not more than twenty feet downward and forward. No shaft goes deeper than one hundred feet. One enters through an opening about 4x4x3 feet and crawls the entire distance to the bottom of the shaft.

Underground the soil is surprisingly dry, with practically no water or dampness even at the greatest depths. While the temperature outside ranges between 70° and 80° F. in summer, the temperature within the mine is somewhat increased by the heat from the lamps and the poor ventilation.

Sanitation and Water Supply—There are no sanitary conveniences either in the mines or above ground in the dwellings of the coolies. No public privies are provided; urine and feces are disseminated along the roads and on the hillsides. During the rainy season the waste matter is washed down and settles in pools and ditches. There is no sewerage system into which these stagnant ditches may drain, so that permanent cesspools result.

There is practically no local water supply. Water for drinking and washing purposes is carried by coolies from the river, which is more than six miles away. Judging from taste and smell, the water is rich in magnesia and sulphur content; unquestionably, much organic matter also is present. During a stay of twenty-three days the writer suffered from so-called

"newcomer's diarrhea." Ten days elapsed before we could drink the water with any degree of comfort.

Method of Conducting Fecal Examination.

In approaching a new field in Central China, it is essential first to win the friendship of the community. This was done at Sinhwa by opening a small dispensary for the treatment of out-cases. A good stock of medicines and surgical supplies had been brought from Changsha for gratuitous distribution and a judicious use of these made it possible to win over many persons who would not otherwise have presented themselves for examination. In each instance, before giving treatment, we explained with great emphasis that correct diagnosis would depend largely on careful fecal examination. Each patient was presented with a small porcelain jar to take home and given instructions to bring a portion of the stool to the dispensary.

The specimens of feces thus secured were examined by the method adopted by the International Health Board. All specimens which were negative on the first and second examinations were centrifuged and re-examined. It is interesting to note that 70% of positives were found by this method, which takes time, but has the advantage of great accuracy. In all positive cases thymol was given. It was difficult to follow the results of treatment because most of the farmers came from long distances and all of them refused to stay for treatment. Consequently, thymol was given in measured doses to be taken at home.

In all, examinations was made of the stools of 210 persons, of whom 63 were workers in the mine, 12 were merchants, 17 were farmers, 86 were coolies who work above ground and 32 were women, children, students and artists. The results are tabulated below.

TABLE SHOWING INCIDENCE OF HOOKWORM AND OTHER INTESTINAL PARASITES, SINHWA, HUNAN, 1916.

Occupation	No. Examined	Hookworm Cases Ova present	%	Ascaris Cases Ova present	%	Tricho-ceph. Cases Ova present	%
Miners	63	4	6.35	63	100.00	5	7.94
Other coolies	86	6	6.98	86	100.00	12	13.95
Farmers	17	12	70.59	17	100.00	4	23.53
Merchants	12	3	25.00	11	91.66	0	00.00
Miscellaneous	32	2	6.25	30	93.75	1	3.13
Totals	210	27	12.86	207	98.57	22	10.48

Of the total number of 210 cases, 12.86% were found infected with hookworm, 98.57% with ascaris lumbricoides and

10.48% with trichocephalus dispar. The division into occupations was made to help trace the original focus of infection. The percentage of hookworm infection appears low in the general average, but a study of the table reveals the significant fact that among farmers there is an incidence of 70%. In view of this high rate, we believe that the surrounding farming district is the source of the hookworm infection. Further inquiry as to the histories of the infected coolies brought out the fact that they had worked in the mines only a short time and that they had previously been farmers. It, therefore, seems more than likely that the original foci of hookworm infection are the farming districts of Sinhwa.

The figure for ascaris, 98.6%, is not high. In the course of a routine examination of feces among the in-patients in the Hunan-Yale Hospital, Changsha, 250 cases gave an incidence rate of 92% for ascaris, which figure is very nearly as high as the average in the mines, in spite of the better living conditions at Changsha.

Conclusions.

1. In antimony mines where the altitude is high and the soil on the surface is dry and porous, with practically no standing water, there is little chance for hookworm eggs to hatch. The danger lies in the fact that infected feces are carelessly disseminated. Unless sanitary conditions are installed, the mines will eventually prove an endemic center for hookworm.

2. An examination of 63 persons who work in the mines and 86 coolies who work above ground showed 13 persons infected, all of whom had until recently been farmers. They were undoubtedly infected in the rice fields before they entered the mines.

3. Eradication of hookworm disease in the antimony mines can be accomplished without great difficulty, provided stringent measures are taken to institute a system of regular examination among the workers. Each infected case should be isolated and treated before permission is given to enter the mines.

4. The mine owners must be educated to prepare suitable privies and to arrange for their regular cleaning.

5. It is even more important to educate the coolies. They should be taught the nature of hookworm disease, its mode of

infection, and how to prevent it by the regular use of sanitary privies.

6. Any attempt to lessen the danger of importing hookworm disease into the mines of Sinhwa province must deal with the fields where the farmhands, from whom comes the supply of miners, are infected. To deal with the fields, means to attack the entire problem of the use of human excrement for fertilizer—a custom which prevails throughout China.

REMARKS ON THE TREATMENT OF BURNS WITH PARAFFIN MIXTURES, AS DEVELOPED BY THE EXPERIENCE OF THE PRESENT EUROPEAN WAR.*

By RUDOLPH MATAS, M. D., New Orleans.

The perennial interest that attaches to the treatment of burns and the innumerable suggestions that are constantly cropping up in the literature for the treatment of the graver types of this most frequent and painful injury, proves quite clearly that in spite of all the vast deal that has been said and written on this subject—from the dawn of medical history to the present time—there is still much room for improvement in the classical and routine methods that are now in vogue. This accounts, in part, for the widespread interest shown in the lay and professional press in this country in the results claimed for the "Ambrine" treatment, since it was introduced by its originator, Dr. Barthe de Sandfort, of Issy-les-Moulineaux, near Paris, in the beginning of the present war.

So much has been written, and especially in the public press, on the treatment of burns by the use of ambrine, that it may be well to introduce the discussion of the subject by a preliminary statement of the conditions arising from the peculiarities of the present frightful methods of warfare, which have added to the vast number of the ordinary causes of burns, another and especially formidable type, known as "War Burns." The gravity and importance of this new horror of the present war may be gathered from the account given by a correspondent in the Western front to the *Medical Record* of New York of January 27, 1917, in which he states:

*Read at the meeting of the Touro Infirmary Clinical Society, February 7, 1917.

> "Among the new engines of warfare that have been employed in this most awful of all wars, none are more awful or have been the cause of more horrible suffering than those engines for projecting liquids or explosive shells, filled with these liquids which char the flesh of the face and hands, and when projected against a person, burn up the clothing like April snow before the sun, leaving the integument and aponeurosis blackened and shrivelled."
>
> "The stifled groans of agony wrung from the unwilling lips, blackened, swollen, cracked and disfigured that I hear at my front line hospital, make me mentally shrink as I pen these sentences and, despite the exercise of will, cannot be banished to the forgotten recesses of memory."

It is in connection with the treatment of these fearful injuries, created as it were by the new conditions of war, that the new remedy ambrine has come into prominence. It will therefore be of interest to give some account of the history of this new method of treating burns and incidently of its originator, who has already told the story of his discovery in the Bulletin of the French Academy of Medicine (April 14, 1914) and by many journalists and others who have visited his hospital at Issy-les-Moulineaux, a suburb just out of Paris.

The lukewarmness with which the medical profession, even in France, received the first announcement of this so-called discovery, is in striking contrast with the remarkable or extraordinary enthusiasm with which the ambrine treatment was received and heralded in the public press in which the words "wonderful," "miraculous," "marvelous" are frequently repeated in the writings of correspondents in their accounts of what they have witnessed at this now famous hospital for burns.

So extraordinary have been the claims that have been made for this remedy that a reasonable scepticism has been roused as a result of an extreme and indiscriminate laudation, and were it not for the testimony of credible and thoroughly unprejudiced observers who have lately investigated the results of Dr. de Sandfort's treatment, it is probable that a really valuable acquisition would have been condemned in the face of the overzealous and injudicious advertising that this treatment has

been given at the hands of non-medical writers. The doubts cast upon the genuineness of the so-called discovery has been aggravated by the fact that "Ambrine" is a proprietary product, manufactured and controlled by a manufacturing company, and that the originator, Dr. Barthe de Sandfort, has kept his formula secret and has failed to reveal its components even in his original contribution submitted to the French Academy of Medicine on April 14, 1914, and has allowed this company to exploit his remedy at a high price in this country ($5.00 per pound).

The exploitation of ambrine as a secret remedy by a commercial corporation in the midst of a great crisis, when humanity at large is in the throes of one of the greatest catastrophes of history, has detracted from the professional esteem in which the originator would have been held had he been more liberal in his interpretation of the mission of the physician, which is, above all, humane and philanthropic.

This accounts no doubt for the scant sympathy which "Ambrine" has received at the hands of the medical profession and the tardiness with which the undoubted merits of this mode of treatment have been recognized. However, it is not my purpose here to discuss the purely ethical side of this question, but solely to report upon the therapeutic value of this remedy which, if it can accomplish even one-tenth of what has been claimed for it, would be worthy of the foremost place among our resources in the therapy of burns. Fortunately, recent inquiries, and especially those of so capable, unprejudiced and judicious an observer as Major A. J. Hull of the Medical Corps of the British Army in France, fully sustain the value of ambrine as an application of remarkable efficiency in the treatment of burns of all degrees; and while much that has been claimed for it as miraculous and marvelous may be discounted as an enthusiastic exaggeration, my personal experience in the use of this paraffin compound, limited as it is, is sufficient, I believe, to confirm, in my mind at least, the great value of this mode of treatment. I therefore feel fully justified in engaging your attention to its merits and in telling you of its results in my personal experience with the original substance and with the substitute that we have had occasion to try in its place.

Before going further, it may be well to state that Dr. Barthe de Sandfort originally came to his discovery by treating himself for rheumatism. After taking the cure at Dax, where the hot mud baths gave him much relief, he desired to continue the treatments at home. Not being able to transport the Dax mud, he bethought himself to try a substitute, and, after experiments, he combined paraffin with the resin and oil of amber, which, when melted together and applied hot, made a firm and thick application affording relief.

"He brought this new treatment to the attention of his colleagues, who laughed in his face. Years later, he went on service to a railway in China and was in Yunnan at the time of the incendiary insurrection, and many badly burned Chinese were brought in for treatment. Remembering that Ambroise Paré treated such cases with hot oil, he tried the effect of covering the burn with his melted ambrine which at once glazes over, forming a coat impervious to the air, and his patients ceased to suffer; in a few days all infection disappeared, the surfaces began to repair and grow new skin, which eventually covered the burned surfaces in such manner as to leave no cicatrix and no evidences that a burn had existed. Upon his return to France in 1904, he again related his experience to his colleagues with his new remedy, but they ridiculed him and his wax.

"After learning of the introduction of these burning engines into this war, he placed himself and his discovery at the disposal of the War Office, but he received no recognition. However, he employed his new treatment at every opportunity that presented itself, and as his successes convinced him more than ever of its utility he interested prominent people, demonstrating before them the marvelous results following his treatment.

"He secured the installation of a few beds in his present quarters to receive patients, and as the benefits became known the demand for place increased, until the influence of friends and the demonstrated utility of the treatment compelled recognition, and now the War Office has not only ordered that the victims of burns be sent to him, but has established the treatment, which is very simple, in the front line hospitals, and the poor boys, who heretofore suffered the tortures of the inferno, are given immediate relief from

> their agony; the burns are cured, and surfaces restored to their normal state."

The correspondent of the *Medical Record,* from whose letter of January 27, 1917, I have quoted these paragraphs, writing an account of his visit to Issy-les-Moulineaux, states with much enthusiasm that during his visit he saw the men with faces burned and swollen have their dressings removed, the burned surfaces carefully cleansed, care being taken not to disturb the delicate spots of film of new forming skin, and fresh dressings applied without pain or discomfort.

> "I saw one patient whose thorax and abdomen had been denuded with small sections of the ribs exposed, the surface was slowly being covered by new granulations and great islands of new skin were in process of formation over the abdomen. Had this man not been subjected to the prompt application of this treatment at the front, he would probably have been dead in twenty-four hours. As it is, he has been under treatment for five months, and will probably emerge with no evidence of his terrible experience thanks to the courageous persistence in the face of opposition and ridicule, of Dr. Barthe de Sandfort."

My first acquaintance with De Sandfort's ambrine began last October (1916), when I received a letter from Mr. T. Brady, Jr., of Brookhaven, Miss., a well-known lawyer of that city, who had at one time been a student of medicine in Tulane and whose humanitarian instincts were aroused by seeing a glowing account of the effects of ambrine in the *Outlook* magazine (September 2, 1916, p. 333). This had prompted him to write to Dr. de Sandfort for the formula of ambrine and for details regarding its mode of application. In response to his petition, he received a polite letter from Dr. de Sandfort, in which he enclosed specimens of ambrine and also several photographs of soldiers who had suffered from extensive burns of the face and other parts of the body, and who had recovered with scarcely any evidence of the usual disfiguring cicatricial contractions. He admitted that ambrine was a compound of paraffin oil of sesame and resins, but was not at liberty to divulge its exact composition, as the formula and manufacture of this substance was now the property of a private corpor-

ation which was exploiting it as a proprietary and secret remedy. Mr. Brady was referred to the Ambrine Company for further particulars as to its cost and composition. I availed myself of Mr. Brady's courtesy to consult our good friend, Dr. Lobenhoffer, chemist of the Touro Infirmary, whose analytical ability we all recognize, in order to experiment with various compounds of paraffin which might serve the same purpose in treating burned cases in our clinics. Dr. Lobenhoffer has had the matter under advisement for some time, but while we were planning to work on this problem, the *British Medical Journal* of January 13 has come to us with an interesting article by Lieut. Col. A. J. Hull, F. R. C. S., of the Royal Army Medical Corps, in which he gives an excellent account of his study and observations of the effects of Sandfort's ambrine. Much impressed with the real value and unusual merits of this product, but balked in its use by the secret and proprietary character of of its formula, as well as its cost, Major Hull began an experimental research on a series of paraffin compounds which possessed the same, or, at least, closely similar physical and therapeutic properties of the original ambrine. After many trials he finally settled on two formulas designated as No. 7 paraffin and another substitute which is less expensive. These two formulæ he has used to make a mixture which has yielded practically all the results obtained by ambrine.

Dr. Lobenhoffer has very kindly undertaken to reproduce Hull's formulas and I now show you sample of the No. 7 paraffin, together with specimens of the original ambrine which were received directly from Dr. Sandfort by Mr. Brady last October. While these substitutes are not identical, they are very similar, and if Major Hull's observations are correct, as I have no doubt they are, the substitute known as No. 7 paraffin should prove just as suitable as ambrine in all essential particulars.

I have not had an opportunity to try Hull's No. 7 paraffin mixture in our Touro clinic, because no cases of burns have been admitted for treatment since the compound has been prepared, but yesterday (Tuesday) Dr. G. R. Gerson, my resident officer at the Charity Hospital, applied this mixture in two cases (two badly burned women, second and third degree burns of the chest and abdomen) in ward 73, and apparently the mix-

ture has been most pleasant to the skin, causing no pain; on the contrary, proving a very soothing application. Of course it is entirely premature to make any statement as to the ultimate effects, but we shall watch these patients very carefully in order to report them later when the observations will have been completed. In the meantime I will avail myself of Major Hull's excellent paper to state some additional facts in regard to the mode of action of this remedy and to explain the technic of its preparation and application.

First allow me to quote Mayor Hull's personal observation and comment on the merits of Dr. Barthe de Sandfort's ambrine:

> "Observations of Dr. Barthe de Sandfort's treatment, and experiments with ambrine, carried out in a military hospital, gave one the impression that the treatment was valuable. Burns healed with rapidity; constitutional symptoms rapidly abated; pain was reduced to a minimum; scarring appeared to be obviated, or at any rate was not apparent. The need for grafting large burns appeared to be avoided. The burns healed so rapidly with healthy granulations that there appeared to be nothing to be gained by grafting. The patients were singularly free from sepsis. The conclusion arrived at from experimenting with the ambrine treatment was that mild burns healed with singular rapidity, and severe cases recovered which would have been unlikely to recover by the ordinary methods of treatment. Observers who had large experience of burns treated by picric acid, ointments, and other methods in ordinary use, were unanimously of opinion that the paraffin method was superior to the older methods. The experience of those who had witnessed the results of burns after liquid fire attacks was that the ambrine treatment would save many lives, and accelerate the recovery of all burns."
>
> "The excellent results obtained would therefore appear to be due to mechanical causes. The protection of the burn from the air, the protection of the newly-formed granulations from damage, the splint-like effect of the wax in holding the damaged tissue immobile and at rest, appear to be the attributes which produce the effect. The heat of the applications and the conservations of heat to the surface may encourage the lymph flow, determine the supply of blood to the new

capillaries, and favorably affect healing. The relief from pain and rapidity of healing is due to the fact that the burn is held at rest in a plaster-like cast of paraffin, and a suitable nidus in which the epithelium will proliferate is provided."

"The absence of scarring depends upon the fact that skin can be reproduced in two ways. First, by direct proliferation of the epithelium in the depth of the wound. This method of healing is only possible in wounds of the first and second degrees, which form the vast majority of all cases of burns coming under treatment. Secondly, by the extension of the epithelium from the edge of the wound in cases of burns of the third and deeper degrees. These burns are comparatively rare, and are only cases suitable for grafting. The effect of the paraffin in the first class is to protect and stimulate the growth of epithelium, islets of which can be seen growing over the base of the burn. In the second class the epithelium spreading from the edge is protected and stimulated."

After relating the many experiments in which various substitutes were tried, he says:

After progressively improved results, a paraffin was finally arrived at having the mechanical properties of ambrine and containing a small amount of antiseptic. This is now in routine use known as No. 7 paraffin.

The results obtained by the use of No. 7 paraffin have surpassed the results obtained by ambrine or any other tried preparation. Severe burns of the third degree, accompanied by sloughing, and in a very septic condition, have cleaned and taken on healthy repair under this treatment. Severe burns of both palmar and dorsal surfaces of the hands, extending to the tendon sheaths, have healed in three weeks without contracting cicatrices. Extensive burns of the flexor surfaces of the limbs, the regions most likely to be altered by contracting cicatrices, have healed without apparent scarring. Burns of the face heal with a new, healthy skin without scarring.

Severe burns due to cordite, petrol and liquid fire have been healed with this preparation; there have been no untoward results.

Patients who have been admitted with septic burns of extensive areas have rapidly recovered from constitutional symp-

toms, the temperature usually becoming normal in a few days.

The treatment is practically painless, and patients rarely complain of pain after the first application. It has never been found in the least necessary to give an anesthetic for the first or subsequent dressings. The rapidity of healing, the absence of sepsis or pain, the healthy new skin resulting without contractile cicatrices or deformity, have been really remarkable. Burns become clean more rapidly than under ambrine treatment. Sloughs of deep tissues, in some cases down to bone, readily separate, and the burns become clean.

Mode of Application.

The paraffin treatment is begun at the first dressing; very exceptionally, in very septic burns, the paraffin is replaced by hot boric fomentations for two days, after two days of paraffin treatment.

The burn is washed with sterile water and dried. The drying is accomplished by placing a dry piece of gauze over the burn. An electric drying apparatus, such as is used by a hairdresser for drying hair, if available, is a convenient method of drying the burn.

The burn is next covered with a layer of paraffin at a temperature of 50° C. The No. 7 paraffin has a melting point of 48° C. The temperature may be estimated by waiting until the wax shows a solidfying film upon the surface. A broad camel-hair brush, sterlized in wax, has been found to be a rapid and painless method of applying the paraffin. A spray may be used, but sprays readily get out of order, are troublesome to use, and the dressing takes longer. In theory a spray should be used in order to prevent any damage to the epithelium. In practice we have found a brush, skilfully used, sufficiently satisfactory. Sprays are indicated in very painful cases. A metal spray of rather large bore should be employed. The spray must be immersed in hot water during use.

A thin layer of absorbent cotton, cut the same size as the area of the burn, is placed over the wound after the first layer of paraffin has been applied. This layer of cotton is covered with a second layer of paraffin. The cotton is cut in thin sheets and pressed between layers of paper in order to obtain thin layers

of cotton. The dressing is completed by applying cotton and bandage. The burns are usually dressed daily. In the later stages, when the burn is clean and only a small amount of pus formed, the dressing is changed every forty-eight hours.

Blisters ars not interfered with in any way at the first dressing, the paraffin is applied after washing the burn. At the second dressing the dead layers of skin are cut away. Sloughs usually separate after a few dressings. The separation of sloughs is accelerated by applying a layer of jaconet over the cotton and paraffin beneath the cotton and bandage dressing.

Formula for No. 7 Paraffin (Hull).

Resorcin	1	per cent
Eucalyptus oil	2	"
Olive oil	5	"
Paraffin, soft	25	"
Paraffin, hard	67	"

Melt the hard paraffin and add soft paraffin and olive oil. Dissolve the resorcin in absolute alcohol (soluble in 2 in 1), add the alcohol resorcin, and lastly add the eucalyptus oil when the wax has cooled to about 55° C.

A smaller amount of resorcin may be used. The whole of the resorcin does not remain in suspension, and we have used a paraffin containing 0.25% resorcin with good results. (Hull).

Difficulty having been experienced in obtaining resorcin in large quantities, betanaphthol, which has the additional advantage of being a cheaper antiseptic, has been substituted for resorcin in more recent preparations, as follows:

Betanapthol	0.25	per cent
Eucalyptus	2.0	"
Olive oil	5.0	"
Paraffin, soft	25.0	"
Paraffin, hard	67.75	"

Since the reading of this paper on February 7, 1917, our experience with the paraffin treatment has considerably increased, so that we now have notes on at least ten cases drawn from the Charity Hospital and Touro clinics. After exhausting the first few samples of the original ambrine received from France, Hull's formula No. 7, modified as above described, by substituting B-naphthol for resorcin, was used exclusively both at the Charity Hospital and at the Touro Infirmary. Mr. Walker,

pharmacist at the Charity Hospital, supplies this preparation at a cost of less than 18 cents per pound, and a like estimate is made by Dr. Lobenhoffer at the Touro. The mixture, when melted, is of a light yellow amber color and emits a very agreeable aromatic odor in which the eucalyptus predominates. This aromatic odor remains after the dressing is applied for many hours, causing a very agreeable contrast with the foul emanation that is exhaled by the severely burned patients under the ordinary moist or dry dressings.

In the application of the mixture, the general instructions given by de Sandfort and Hull have been closely followed.

In our class demonstrations, we have used the dry hot air blast (hair dresser's electric model) and we have found this convenient, but not necessary. Gentle mopping of the secreting surfaces with sterile gauze and exposure to the air are sufficient preparation for the melted compound. This is applied in the liquid state at an agreeable temperature of 100° F. or less, with an absorbent cotton mop held in a long uterine forceps. The melted paraffin cools and hardens quickly as it is spread gently over the surface. When the second layer is applied over a thin cotton film, a large flat painter's brush is a better agent for the even distribution of the liquid—but the cotton mop is always preferable for spreading the mixtures directly over the burned surface. No doubt, a good spray would be best suited for the even and painless application of the mixture; such a spray is sold by the Ambrine Company, and a very good working model has just been devised and described by Dr. W. G. Hudson of the Dupont Powder Works, at Wilmington, Del. (*New York Medical Journal*, February 17, 1917.)

Our experience has shown that with a cotton mop and a brush, the spray is unnecessary. Burns in the more movable regions should be covered with several layers of the mixture, over superimposed layers of cotton, in order to insure greater immobility and rest.

The soothing effect of the mixture and the immediate cessation of pain in all our cases representing every type of burn has been perhaps the most notable and gratifying feature of the treatment. All pain ceases after the burned or blistered sur-

faces are covered with the paraffin, and relief continues as long as the wax is kept in place.

The wax is removed with the greatest ease as it is lifted up in large scales and sheets. In septic and suppurating conditions, the dressings should be changed at least once daily, or whenever the secretions tend to accumulate to any notable extent under the wax-like shield or "carapace." In deep burns of third degree with extensive sloughing, the sloughs appear to be detached under the protection of this dressing with greater rapidity and less pain than by any other process; epidermization progresses more rapidly under this wax than under any other dressings that we have ever tried. Blistered surfaces and superficial sloughs which do not extend beyond the corium, heal with a perfectly smooth surface, leaving no appreciable scar.

We now hold under observation a test case in which the entire skin of the axilla and inner surface of the arm and chest have been burned to the muscle layer; granulation and epidermitization have progressed at a very rapid rate and we are waiting to see if secondary cicatricial contraction with webbing of the arm will follow after this treatment as after the usual routine methods.

This and a group of other cases, observed at the Charity Hospital, in which the paraffin mixture has been applied, will be reported in detail at a later date by Dr. G. R. Gerson, our resident intern, who has had them in charge.

A FEW REMARKS ON GASTRO-ENTEROLOGY FOR THE GENERAL PRACTITIONER.*

By A. L. LEVIN, M. D.,

Adjunct Professor New Orleans Post Graduate School of Medicine, New Orleans.

The subject of gastro-enterology should be of interest to you, for the simple reason that the human stomach more than any other organ in the body is constantly used and abused. Almost one-third of your cases, if not more, deal with some form of gastro-intestinal disturbance; still, this branch of medicine, for some unexplainable reason, is as yet a very neglected

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baby in the hands of our medical schools. We overload the brains of our young students in medicine with major surgery; hardly 5% of a class will be qualified to practice that art; what about the remaining 95%? Are they prepared as they should be to handle intelligently various diseases of the gastro-intestinal tract? It is difficult to answer that question in the affirmative. All our medical schools of the South make that branch an optional one, and the student is attested qualified by three visits to the gastro-intestinal clinic. Is there any wonder that we are still, in spite of our advanced age, unable very often to diagnose gastric carcinoma sufficiently early to do something for the victim? We have not discovered a method, as yet, reliable enough to diagnose an early carcinoma. When we do lay our medical hands on that horrible disease, the poor victim is about ready to entrain for his final trip. We still often make such mistakes as to treat an inoperable carcinoma for ulcer of the stomach. To illustrate:

> Mrs. H. G., age 56, gave a past negative history as far as the stomach is concerned. In April, 1915, she suddenly took sick with a violent pain in the epigastrum followed by a very large hemorrhage. She was found on the floor in a pool of blood; almost exsanguinated, she was rushed to the Touro Infirmary. Ulcer of the stomach was suspected, surgery in that case was out of the question. Palliative treatment was instituted. She recovered sufficiently, in time, and was sent home. The physician in charge of the case kept a watchful eye on her and in September, 1915, she was again brought to the Touro Infirmary with the idea of applying some radical treatment. At that time, the following symptoms were present: Peculiar cachexia, pain in epigastrium on pressure, made worse by food, localized, tenderness at Boas' point, mass at that time could not be detected with positiveness. Gastric analysis showed high acidity; occult blood repeatedly was positive. Diagnosis of ulcer was confirmed by the X-ray. Medical treatment for ulcer of the stomach was decided upon and she went through a regular Lenhardtz treatment, somewhat modified. She responded somewhat to the treatment, showing improvement; gained a few pounds in weight, and after three months of hospital life, she was sent home to be kept under observation. Altogether she gained 7 lbs. in weight.

> When she began to improve, the occult blood was negative. After a month of home life, suddenly her health began to fail, pain returned, the occult blood became positive again and loss of weight followed. Surgical intervention was the only recourse to be taken. But what a disappointment! On opening the abdomen, an inoperable carcinoma was found.

Just imagine, such a large organ as the stomach, which is easily accessible to be measured, inflated, palpated, for contents to be analyzed chemically and examined microscopically; it can even be trans-illuminated and inspected by a gastroscope, and with all those means at our command, according to Mayo and Monihan, in 62% or 72% of ulcer of the stomach, carcinoma will develop on the site. Can you, gentlemen, estimate the value to humanity if we, the watchmen so to speak, could detect the fire before it has spread beyond control?

Now let us consider for a moment the functional disturbances, when the stomach plays the part of the scapegoat, as it were, are we skilled enough to detect the sin quickly? When we descend further down the tract, what do we find there? Since the amebicidal action of emetine has been demonstrated, it is being promiscuously used as a weapon against any foe that dares to attack the intestinal tract, from an ordinary catarrh down the toxic and bacillary lines even to a chicken bone in the rectum, as Dr. Storck has recently reported. Shall the sin of our medical schools be visited upon us? Certainly not. We have a remedy, namely: medical organization for scientific purposes, or post-graduate work in the country. You are gathered here to-day for that same purpose. Allow me to impart to you the little knowledge and experience I have gathered in the past nine years around the hospitals of New Orleans.

It may be of interest to you to know a few of the important events in the development of gastro-enterology. Kussmaul, in 1869, laid the foundation for an exact mode of diagnosis in gastric disturbances. Any man who is interested in diseases of the stomach should not fail to read that article where he explains how he treated with a stomach pump a country girl, suffering from a dilation of the stomach due to pyloric obstruction, for the first time in its history. It was a clumsy affair, but the relief he secured for that unfortunate girl was

remarkable. In 1870, Jurgensen invented the stomach tube, introducing the principle of syphonage into the practice of gastric lavage. It was guided into the stomach by means of a wire stylet. In 1875, Ewald demonstrated that an ordinary rubber tube without any guide could be easily introduced into the stomach. In 1871, Leube demonstrated already the importance of the stomach tube for diagnostic purposes, and twelve years later, in 1883, he established his test meal as a means of determining the state of motor sufficiency of the stomach, concluding that a normal stomach should be empty seven hours after a meal consisting of soup, broth, steak and bread. This test is practiced to-day as a test for motility of the stomach. Riegel, in 1881, demonstrated the absence of hydrochloric acid as a usual occurrence in cancer of the stomach. The chemistry of gastric digestion and the presence of free hydrochloric acid and lactic acid in the stomach contents has been fully described in the classical work by Ewald and Boas in 1885 and 1886. Ewald, at the same time, described fully his test breakfast, and described its importance and advantages in the diagnosis of gastric diseases. Ewald's test breakfast is in practice to-day for the purpose of determining gastric secretion. The test for determining free HCl was discovered by Ginsberg in 1887, and Uffelmann, as we know, gave us the test for lactic acid. Reichmann, in 1882, was the first to draw our attention to a peculiar symptom associating with a continuous secretion of gastric juice in the fasting stomach, the condition was termed gastro-succorrhea. I have seen but a few cases in my experience, one of them is interesting from the fact that the gastric analysis showed an achylia and the artificial administration of HCl gave excellent results, but the greatest credit is due J. P. Pawlow (1902) and his pupils, as he is the real father of the physiology of gastric digestion. I have pointed to but a few of the many contributions in this important field of medicine. Time is limited to go into details about the various instruments that have been devised recently for the examination and investigation of the diseases of the stomach.

Now, my friends, let me give you my advice, very briefly, as to how to handle intelligently gastro-intestinal cases, and lay emphasis on but few of the many possible errors of diagnosis.

Take a careful history of your case; make a thorough physical examination of the entire body; and last but not least examine secretions, excretions and blood. I do not deem it necessary to go into details about those points relating to the taking of a history of a case, although for the sake of simplicity we follow a systematic plan of questions, namely:

1. Pain—dull ache, gnawing, cramp on simple pressure; dependent on food or not; localized or vague. 2. Heaviness, fullness and bloatedness; after taking solids or even after taking liquids. 3. Nausea and vomiting; character of vomitus—food, fluid or blood; periodic or regular after each meal. 4. Belching; tasteless or having the taste of food; sour or bitter; coming on after meals or even on an empty stomach; loud or quiet. 5. Weight. 6. Condition of bowels. 7. Habits. 8. Past illness.

Each question has some significance to help you in forming an idea of the possible disagnosis and the whole completed serves as an initial step toward that goal. Dull ache more or less constant, probably carcinoma, although I have seen cases of malignancy without pain; gnawing pain relieved by food for a while to recur later on is typical of ulcer, provided the pain is localized; vague pains traveling from place to place point toward a neurosis; localized pain in the epigastrium more to the right costal arch and not dependent on food would make one suspicious of gall-bladder trouble, especially if you obtain a history of periodic attacks. A cramp pain suggests the involvment of muscular structure; gnawing—mucous membrane. Heaviness, fullness and bloatedness denote that the musculature of the stomach is below par, provided they come on after ingesting solids; when liquid will cause it, the chances are that you are dealing with a neurotic. Sensation of a rising ball in the throat is a neurotic symptom, due to an esophageal spasm. The usual morning nausea of alcoholics and the nausea caused by a gravid uterus is known to all of us, also nausea due to intestinal toxemia; bear in mind nausea nervosa; several cases of that type recently taxed my resources to the limit. The periodic vomiting in gastric dilation is characteristic; if the vomitus contains food eaten a day before, it designates stagnation, due either to atony or obstruction; when blood is present in vomitus, endeavor to determine its source. Large quantities

of fluid, especially when the stomach is empty, mostly at night, points to a condition known as gastro-succorhea. There is a type of vomiting which is persistent and which, with other symptoms, I have described recently in my paper on "Syphilis of the Stomach," points toward a syphilitic cachexia or syphilis of the stomach. Belching, if it is loud, tasteless and performed any time at will, is neurotic in origin and is caused by swallowing air or aerophagia. Weight is an important factor; remember the following rule: Age, at and above middle stage of life, stomach symptoms and loss in weight are the three main factors which strongly point toward carcinoma, until you can positively rule it out. A gradual but steady gain in weight in a doubtful case of that type is a favorable sign. Constipation very often has a train of gastric symptoms in its wake, due to absorption of toxins.

In making your physical examination, bear in mind the number of T. B. cases which begin with stomach trouble. I have seen many a patient who consulted me for indigestion, not suspecting in the least that he was a victim of the white plague. I advise you, therefore, in your stomach cases to examine the lungs very carefully. Cardiac insufficiency is very often an underlying factor of dyspepsia; the shape of the chest, if of a stillar type with relaxed abdominal walls, points toward a splanchnoptosis or Glenard's disease. Large fibroid uteri were sent to me with a history of stomach trouble for many months or years and the doctor's medicine did not do them any good. No wonder, the doctor has never put his hands on the patient's stomach to feel the large tumor. After a careful physical examination, order an Ewald test breakfast, and if suggestive, the Leube-Rigel test meal for motility. Do not fail to make a urinalysis, not to overlook a nephritis; examine also the urine for the presence of indican. I am very much interested in that subject and lay stress on it in some cases. The subject is fully explained in my paper on "Clinical Significance of Indicanuria." The blood should be examined, if indicated, to exclude various anemias and systemic infections. After you have gathered all the facts necessary, make an appeal then to the X-ray for help, if you need any. Do not depend upon it entirely, as it is often misleading and very often the stomach

tube will determine for you certain facts more efficiently than the X-ray; so please, gentlemen, do not exchange your stomach tube for the X-ray.

To emphasize several points which I have mentioned, I will relate the following case:

> "J. W. 45, colored barber, came to gastro-intestinal clinic on February 3, 1913. He then gave the following history: Past month and a half constant dull ache in epigastrium, no relation to food, worse at night. Usual symptoms of indigestion, morning nausea, but no vomiting. Physical examination: Heart, systolic blow transmitted, compensation good; abdomen, palpable mass in right upper abdominal quadrant, freely movable with respiration, round-inner aspect irregular. Test breakfast: quantity small, HCl faintly positive. Was treated medically for a while, he gained 3 lbs. in weight and improved somewhat in general. He did not show up for further treatment until March 23, 1916. He admitted to me then that he had been treated by others without any results and that he is now suffering worse than ever with severe pain in the epigastrium which is constant, worse at night, very severe pressure pain after a meal and persistent vomiting. In the last three months he lost 20 lbs. in weight. On examination I detected the same mass in the right upper quadrant probably somewhat larger. I sent him for a Wassermann test; he gave four plus positive. X-ray showed marked deformity at the pylorus, ptosis, very suspicious of carcinoma. Anti-syphilitic treatment instituted, patient improving very rapidly.

At last I wish to say a few words in regard to disturbed bowels. Never treat a case of diarrhea unless you have examined the stool microscopically for parasites, intestinal indigestion or bacillary forms; determine the presence or absence of rectal lesions by a proctoscopic examination which is very simple and can be easily carried out by one man in his office. Determine the nature of the lesions when found. Remember, also, that emetine is a toxic drug. Do not use it too freely, and do not depend upon it to cure amebic dysentery. I have pointed to but a few, and very briefly at that, of the many conditions of the gastro-intestinal tract. I hope that our medical schools in the near future will place the study of the diseases of the

stomach and bowels upon a firm scientific basis. Much has already been accomplished. May the great work continue, and may much in the future that is new, true and great be accomplished under the auspices of the organized profession of the State of Louisiana.

EIGHTEEN MONTHS OBSERVATION ON THE MENTAL AND PHYSICAL STATE OF CHILDREN FOLLOWING THE REMOVAL OF TONSILS AND ADENOIDS.*

By CHARLES JAMES BLOOM, B. Sc., M. D.

Senior Pediatrist Presbyterian Hospital, Junior Pediatrist Touro Infirmary, Visiting Pediatrist Charity Hospital, Instructor in Pediatrics, the Tulane University of Louisiana, New Orleans, La.

Introduction.

During the past decade medical literature has abounded in articles referable to tonsils and adenoids, pathology, histology, bacteriology, embryology, etc.; each has had its inning.

Diversified and various opinions have been propounded regarding the aftermath of this condition, many authorities giving glowing accounts of the wonderful improvement of the physical state; of the marked change of the mental status; of the disappearance of the factors necessitating their removal, and, on the other hand, pediatricians and rhinologists of equal medical prominence antagonistically emphasize "no results," "symptoms more pronounced than ever," "mental backwardness shows retardment," these statements tending to illustrate the many deliberate opinions expressed.

But the basis of this deduction apparently was wanting, for little conclusive and detailed data were given. Having been one, who for many years had suffered from the effects of diseased organs and realizing what relief the author has had since their removal, plus the tendency of the age to promiscuously remove these glandular organs regardless as to whether nature had been given a fair chance to act as her own physician these facts prompted me to study in detail this vital subject.

The data were secured in their entirety by the writer while

*Read before the Attakapas Clinical Society, January 4, 1917, Jennings, La.

a resident physician in the Touro Infirmary, from June, 1913, through May, 1916.

The number of cases at the start were one hundred and fourteen (114) but due to the fact that a great number of the patients failed to return for satisfactory deductions, this series may be reduced to fifty-seven (57) cases.

Mode of Procedure.

The patients were taken as they were admitted, namely, private and charity alike, no efforts being made to secure children of a particular nationality, age or sex.

At the time of operation, their physical and mental states were recorded, the former through examination, etc., the latter through the medium of their reports. From this time on monthly examinations, weights and measurements were made, thereby giving the writer a splendid opportunity for definite conclusions.

Age, Sex and Nationality.

The following is the age distribution:

Age 4 years	4 cases
Age 5 years	5 cases
Age 6 years	11 cases
Age 7 years	4 cases
Age 8 years	7 cases
Age 9 years	4 cases
Age 10 years	5 cases
Age 11 years	3 cases
Age 12 years	9 cases
Age 13 years	3 cases
Age 14 years	2 cases
Total	57 cases

Under 6 years 35%; over 6 years 65%.

This series included twenty-nine males and twenty-eight females.

These children were all Caucasians, born in this country and considered American provided these represented the third generation born in this country.

American—33 cases (90% of German extraction).	
American—(Hebrew)	1 case
Polish—(Hebrew)	1 case

Italian	3 cases
German	9 cases
English	1 case
French	3 cases
Spanish	2 cases
Swede	1 case
Irish	3 cases
Miscellaneous	14 cases

The Italian children exhibited but little improvement.

School Grade.

Age 14 yrs.	Highest 9th;	Lowest 4th;	Average 6th	A
Age 13 yrs.	" 5th	" 5th	" 5th	
Age 12 yrs.	" 5th	" 4th	" 4th	A
Age 11 yrs.	" 6th	" 3rd	" 4th	
Age 10 yrs.	" 5th	" 2nd	" 3rd	
Age 9 yrs.	" 4th	" K*	" 2nd	A
Age 8 yrs.	" 3rd	" 2nd	" 2nd	A
Age 7 yrs.	" 1st	" 1st	" 1st	
Age 6 yrs.	" 1st	"	" K*	
Age 5 yrs.	" K*	"	"	

History.

(A) Family
(1) Rheumatic
(2) Luetic (Syphilitic)
(3) Tuberculous
(B) Personal
(1) Physical Examination
(2) Present Complaint
(3) Previous Illness
(4) Tests (Wassermann) (T. Z. O.) (Tuberculin)

Acting upon the advice of some of our medical fraternity, the viewpoints of rheumatism, syphilis and tuberculosis being predisposing factors were considered with the following results.

Family History.

(1) *Rheumatism*—Of the fifty-seven cases in question, forty-five gave a negative history and twelve a positive but indefinite history.

Three parents had complained of rheumatic disturbances; a brother and sister in another instance had suffered from an analagous condition; on the other hand, however, grandpar-

*Kindergarten.

ents in eight cases were afflicted with "inflammatory rheumatism."

So barely twenty-one per cent gave evidences of this "rheumatic tendency" as a predisposing factor.

(2) *Syphilis*—Syphilis has always been held by many to be the cause of practically all ailments—in fact, particularly in the South, the burden of proof rests with the physician to show definitely that a given case is not influenced by this disease—in short, when in doubt call it syphilis.

In studying the family history regarding miscarriages, eleven gave histories of having from one to eight miscarriages, in forty-six cases, the histories were of no significance. Therefore, only 19% of the total number revealed a history really significant.

In considering the question of hypertrophied tonsils and adenoids, the question of lues as an etiological factor was also noted.

Of the number of cases in question, forty-five Wassermanns were made. The original and Tschernogubow were the tests used. Of the number of cases where tests were made, forty-four or ninety-seven per cent proved to be negative and one, or three per cent positive.

This fact tends to make one feel that although it is evident in our particular section that hypertrophied tonsils and adenoids are more prevalent that in other parts of our country, still the stigmata of lues apparently is not one of the caustive agents of this pathological condition.

(3) *Tuberculosis*—In consideration of the fact that many authorities have been prone to believe that many cases of diseased tonsils had as the active factor the tuberculous focus, stimulated the writer to regard the question of tuberculosis of the lymphatics, particularly the tonsils and the cervical lymph nodes. Of the forty-one tuberculin tests made, nine, of twenty-one per cent were positive. Thirty-two, or seventy-nine per cent were negative. Of the nine where positive reactions were seen, four cases gave a family history of some form of this disease; namely:

1. Mother and uncle (father's side) pulmonary tuberculosis.

2. Father, pulmonary tuberculosis.
3. Grandmother and grandfather, pulmonary tuberculosis.
4. Two aunts (mother's side) pulmonary and osseous tuberculosis.

Of the nine cases in question, five gave negative physical findings. Of the remaining four cases, one had incipient pulmonary and glandular tuberculosis; one had pleurisy; one had tuberculosis of the left thigh, and the fourth case a marked case of pulmonary tuberculosis.

Personal History.

(1) *Physical Examination*—At the time of the operation, a thorough physical examination was made. At the end of six, twelve and eighteen months of the respective cases subsequent examinations were resorted to.

Strange to relate, although the majority of these cases were warranted in having their tonsils and adenoids removed, still there were only ten cases where abnormal conditions were noted.

Hypertrophied viscera, three cases; namely, two cases of enlarged liver and one of an enlarged spleen. Deformities also numbered three; namely, funnel chest, Lordosis and right shoulder higher than left shoulder, but two cases gave evidence of an endocarditis; one a mitral stenosis and the other a mitral regurgitation. The remaining, one case marked pulmonary tuberculosis, and another having Hutchinson teeth. The remaining cases revealed naught.

(2) *Present Complaint*—To give one a fair idea as to the causes of the numerous enucleations of the tonsils and adenoids included herein it seemed that a concise history as given by the patient might not be out of order. For no matter what one's opinion might be regarding this procedure, the fair-minded know that others whose opinions are equally accepted might have arguments to the contrary. The following are the notes as given by the parents:

1. "Coughs since five years of age."
2. "Chokes in throat, hoarse all the time, earache occasionally, mouth breather, restless nights."
3. "Fainting spells, continuous cough and mouth breather."

4. "Mouth breather."
5. "Coughs continually and mouth breather."
6. "Asthmatic attacks."
7. "Mouth breather, frequent attacks of tonsilitis and bronchitis."
8. "Tonsilitis and mouth breather."
9. "Chronic tonsilitis and peritonsilar abscess."
10. "Sore throat every winter."
11. "Running ear, earache and frequent colds."
12. "Tonsilitis and mouth breather."
13. "Chronic tonsilitis for three years, very difficult in breathing."
14. "Frequent colds and mouth breather."
15. "Colds continually."
16. "Frequent colds and sore throat."
17. "Tonsils enlarged."
18. "Sore throat continually, mouth breather."
19. "Mouth breather."
20. "Mouth breather."
21. "Sore throat since diphtheria; mouth breather."
22. "Under-size and under-developed."
23. "Frequent colds."
24. "Backward, breathes through mouth and slight headache."
25. "Mentally backward, headache and mouth breather."
26. "Chronic discharge left ear, suppurative glands of neck."
27. "Mouth breather."
28. "Chronic tonsilitis, earache, mouth breather and deafness."
29. "Inflamed tonsils and mouth breather."
30. "Abscess right ear and mouth breather."
31. "Chronic discharge of both ears."
32. "Cough and hoarseness."
33. "Under size, sore throat and tonsilitis."
34. "Earache, abscess of both ears."
35. "Sore throat and mouth breather."
36. "Sore throat and frequent colds."
37. "Expectoration, indistinctness of voice, mouth breather and frequent colds."
38. "Retro-pharyngeal abscess, frequent sore throat."
39. "Cold in throat."
40. "Frequent sore throat."
41. "Chilly sensation all the time and headaches."
42. "Chronic tonsilitis."

43. "Earache, increasing deafness, mouth breather and tonsilitis."
44. "Something sticking in its throat."
45. "Mouth breather."
46. "Chronic tonsilitis."
47. "Frequent croup, colds and sore throat."
48. "Sore throat and mouth breather."
49. "Sore throat."
50. "Frequent colds, mouth breather, foul breath."
51. "Frequent attacks of croup."
52. "Sore throat."
53. "Frequent attacks of tonsilitis."
54. "Chronic tonsilitis."
55. "Chronic tonsilitis."
56. "Sore throat and mouth breather."
57. "Mouth breather and tonsilitis."

In twenty-two cases there was one cause for their removal; in twenty-two cases there were two causes; in eight cases there were three causes; in four cases there were four causes; in one case there were five causes.

Sore throat; tonsilitis with temperature, 32 cases (56%)—General improvement.

Mouth breather, 25 cases (45%)—One half of cases improved.

Frequent colds, 7 cases (12%)—General improvement.

Earache, 5 cases (8.5%)—Doubtful improvement.

Cough, 4 cases (7%)—No improvement.

Otitis Media (chronic), 3 cases (4%)—No improvement.

Headaches, 3 cases (4%)—No improvement.

Undersized, underdeveloped, mental backwardness, acute otitis media, indistinctiveness of voice, croup, hoarseness, deafness, 2 cases each (3½%)—No improvement.

Foul breath,* chokes, restless, fainting spells, asthmatic attack, bronchitis, peritonsilar abscess, difficulty in breathing, enlarged tonsils, suppurative cervical glands,* expectoration, retropharyngeal abscess, chilly sensation, 1 case each (1¾%)—No improvement except as indicated by *.

To recapitulate—the indications justifiable for the removal of tonsils and adenoids in order of importance are:

(1) Sore throat and tonsilitis (frequent attacks) (with temperature).

CHART OF WEIGHT AND HEIGHT.

No.	Year.	Month	Sex	Age	Weight At Operation	At 6Mos.	At 12Mos.	At 18 Mos.	Gain	Heigh	Operation	At 6Mos.	At 12Mos.	At 18Mos.	Gain.
1	1913	June	Male	12Yrs.	88 lbs.	86 lbs.	88½ lbs.	91 lbs.	25 lbs.		57 in.	58 in.	59 in.	61 In.	4 in.
2	1913	June	Male	4 "	35 " 4oz.	41 "	40 " 8oz.	56 "	14 " 12oz.		42 "	45½ "	45½ "	46½ "	4 "
3	1913	June	Female	10 "	46 " 8"	48 "	55 " 8 "	60 " 8oz.	14 "		52½ "	52 "	53½ "	54 "	1½ "
4	1913	June	Male	7"	30 "	55 "4oz.	58 "	64 " 8"	14 " 8 "		50 "	51½ "	58 7/8"	54½ "	4½ "
5	1913	June	Female	12"	76 "	80 "4 "	79 "	80 "	4 "		55 "	56 "	59 "	60 "	1 "
6	1913	June	Male	9"	57 " 8"		69 "		11 " 6 "		53 "		53½ "		
7	1913	Nov.	Male	10"	52 "	53 "	58 "	60 "	2 "		51 "	52½ "	53 "	54 "	1½ "
8	1913	Nov.	Male	7"	48 "	53 "	51 ½"	54"	6 "		47 "	48 "	48 "	48½ "	2 7/8"
9	1913	Nov.	Male	8"	55 "	53 "8 "	62 "	63 "12"	8 " 12 "		50 "	54½ " in.	58½ "	58 7/8"	2 7/8"
10	1913	July	Male	10"	64 "	71 "	66 "	78 "	12 "		51 "	54½ "	58½ "	58½ "	5½ in
11	1913	July	Female	5"	35 "	37 "8 "	38 "12"	40 " 4"	5 " 4 "		41 "	43½ "	43 7/8"	43 5/8 "	2 7/8"
12	1913	July	Male	8"	56 "	60 "12"	62 "	70 " 4"	14 " 4 "		50 "	58½ "	53½ "	55½ "	5½ "
13	1913	July	Female	13"	68 "	75 "	75 "	83 "	15 "		54 "	55½ "	56 5/8"	57 "	2 "
14	1913	July	Male	6"	44 "	45 "	47 " 8"	53 " 8"	9 "		45 "	45½ "	46 "	49½ "	4½ "
15	1913	July	Female	12	83 "	90 "	93 "		8 "		58 "	42½ "	61 "		3 "
16	1913	July	Male	5"	38 "	36 "	35 " 8"	41 "	3 "		41½ "	41½ "	41½ "	44 "	2½ "
17	1913	July	Female	12"	56 "	66 "12"	65 " 8"	73 " 8"	27 " 8 "		48 "	54 "	56 "	56½ "	8½ "
18	1913	July	Female	8"	62 "	66 "	66 " 8"	72 " 8"	10 " 8 "		50 "	52½ "	52½ "	53½ "	3½ "
19	1913	July	Female	6"	47 "	48 "	50, "	52 "	5 "		46 "	48½ "	47½ "	48½ "	2½ "
20	1913	July	Female	6"	31 " 8 "	42 "	38 " 8"	46 "	14 "14 "		39 "	45 "	46 "	46½ "	7 "
21	1913	Aug.	Female	12"	71 "	82 " 2"	81 " 2"	98 "	25 "		55 "	56 "	61 "	61½ "	6½ "
22	1913	Aug.	Female	4"	32 "	32 " 4"	35 "	58 "	10 "		36 "	35 1/8"	40 "	42 "	6 "
23	1913	Aug.	Female	4"	26 "	28 " 8"	30 "	32 "	6 "		38 "	30½ " in.	39 "	40 "	4 "
24	1913	Aug.	Male	9"	58 "	62 " 4"	60 "13"	68 " 8"	10 " 8 "		48 "	50½ "	58½ "	53½ "	5½ "
25	1913	Aug.	Female	6"	43 "	46 "	55 " 4"	50 "12"	7 " 12 "		43 "	46 "	48 "	48½ "	5½ "
26	1913	Aug.	Female	11"	78 "	78 " 8"	78 "	85 "	13 "		53 "	57 "	58 "	58½ "	5½ "
27	1913	Aug.	Male	14"	78 "	80 "	83 "	85 "	7 "		58 "	59½ "	62 "	62½ "	2½ 5/8 "
28	1913	Aug.	Male	4"	28 "	29 " 8"	29 " 4"	33 " 8"	5 "12 "		37 "	53 "	39 "	39 5/8 "	2½ 5/8 "
29	1913	Aug.	Male	11"	53 "	70 "	72 " 8"	76 "	13 "		58 "	53 "	54 7/8"	56 "	4 "
30	1913	Aug.	Female	6"	44 "	43 " 6"	43 " 8"	51 " 8"	7 " 8 "		42 "	44½ "	45½ "	46½ "	4½ "
31	1913	Aug.	Male	6"	48"	49 "	50 "	55 " 4"	7 " 4 "		43 "	47½ "	43½ "	47½ "	5½ "
32	1913	Aug.	Female	10"	46 "	49 " 8"	51 " 4"	56 " 8"	7 " 8 "		46 "	47½ "	48½ "	49 "	3 "
33	1913	Aug.	Female	6"	38 "	39 "	45 " 4"	48 "	8 "		41 "	41½ "	43 7/8"	43 "	2 "
34	1913	Sept.	Male	12"	54 "	58 " 8"	58 " 8"	65 " 4"	11 " 4 "		48 "	51 "	53 5/8"	54½ "	6½ "
35	1913	Sept.	Male	9"	51 "	57 " 8"	59 "	63"	18 "		48 "	51 "	52 7/8 "	54 "	6 "
36	1913	Oct.	Female	7"	35 "	37 " 8"	39 "	41 "	6 "		39 "	43½ "	42 "	43½ "	4½ "
37	1913	Oct.	Female	12"	57 "	68 " 8"	79 "	81 "	24 "		56 "	56½ "	59½ "	60½ "	4½ "
38	1913	Sept	Male	14"	96 "	105 " 8"	109 "	115"	19 "		60 "	62 "	62 5/8"	63 5/8 "	3 5/8"
39	1913	Sept	Male	6"	70 "	71 "	78 "	84 " 8	14 " 8"		52 "	50 5/8"	57½ "	59 "	5½ "
40	1913	Oct.	Male	6"	43 "	47 " 4"	51 "	57 "	12 "		44½ "	45½ " in.	50 "	54 "	5½ "
41	1913	Nov.	Male	11"	59 "	69 " 4"	72 " 4"	74 "	15 "		54 "	56½ "	57 "	57½ "	2 "
42	1914	Jan.	Female	10"	44 " 8 "	48 " 8"	53 "	56 "	11 " 8 "		50 1/8"	51½ "	53 "	53 "	2 7/8"
43	1914	Jan.	Female	8"	40 " 8 "	56 "	59 "	63 "8"	16 " 8"		49 in.	50 "	51 "	51 "	2 "
44	1914	Jan.	Male	13"	67 "	75 "	88 "	101"8 "	20 " 8 "		55½ "	56½ "	58 "	58 5/8"	2 7/8 "
45	1914	Feb.	Male	13"	81 " 4 "	87 "	98 "	62 "	13 "		61½ "	62½ "	64½ "	62½ "	1 3/4 "
46	1914	Feb.	Female	8"	49 "	52 " 8"	59 "	68 " 13"	8 "13 "		47½ "	48½ "	50 "	51 "	3½ "
47	1914	Feb.	Male	12"	60 "	65 "	67 "	80 "	13 " 8 "		54 "	54 "	55 "	55½ "	1¼ "
48	1914	Jan.	Female	6"	47 " 8 "	53 " 8 "	60 "	77 "	15 "		49 "	50 "	51½ "	51½ "	2½ "
49	1913	Sept	Female	9 "	62 " 2 "	67 "	72 "	67 "	14 " 14"		54 "	55½ "	58½ "	57½ "	3½ "
50	1913	Sept	Male	9"	53 " 8 "	58 "	66 "	79 "	18 " 8"		48 "	51½ "	53½ "	53 "	5 "
51	1914	Jan.	Female	12	61 " 8 "	69 "	77 " 4"	56 "	11 " 4"		56½ "	58½ "	59 "	60 "	1½ "
52	1914	Jan.	Male	7	45 "12 "	48 " 8"	51 "	59 "	9 " 4 "		48 1/8 "	50½ "	51 "	53 "	4 7/8"
53	1913	Nov.	Female	8	49 "12 "	53 "	55 "	53 " 8"	14 "		43 1/8 "	46 7/8"	47 "	48 "	4 7/8"
54	1914	Jan.	Male	5	39 " 8 "	43 "	49 " 8"	48 "	7" 8"		42 "	46 in.	47½ "	48 "	2½ in
55	1914	Jan.	Male	5	38 " 8"	38 "	46 "	55 "	7 " 8"		42 "	44 1/8 "	44½ "	45 "	3½ "
56	1914	Jan.	Female	6	37 " 8"	30 " 4 "	34 "	38 "	8 " 8"		36½ "	37 7/8 "	38 "	40½ "	3½ "
57	1914	Feb.	Male	6	40 "	38 " 4 "	41 "	42 " 8"	2 " 8"		36½ "	42 7/8 "	43 7/8"	45 "	3½ "

(2) Mouth breather (excise adenoids first). (If no improvement within reasonable time then remove tonsils).
(3) Frequent colds.
(4) Acute otitis media (frequent attacks).
(5) Suppurative cervical lymph nodes.

There are exceptions to all rules but remember:

"Whatever creed be taught or land be trod,
Man's conscience is the oracle of God."

Previous Illness.

It had always been my impression that previous illnesses were important factors regarding enlargements of the tonsils and adenoids, particularly those complaints wherein the exciting cause seemed to be located within the bounds of the tonsils.

	No. of cases.	Per cent.
Diphtheria	9	15
Measles	49	86
Mumps	22	38
Scarlet fever	8	14
Chicken pox	10	17
Bronchitis	4	7
Whooping cough	29	49
Pneumonia	1	1.7
No. of Diseases.	Cases.	Per cent
None	3	5
1	16	28
2	10	17
3	20	35
4	5	8
5	2	3
Questionable	1	1

The largest tonsils from actual weight were those obtained from individuals having previously had measles and scarlet fever; the smallest specimens were secured from those children who previously had mumps and whooping cough. A significant fact brought out by these data is almost total absence of pneumonia previous to the removal of these organs. Is it due to the enlargement of these glands with added resistance? This question is one which cannot be answered off hand, but should be the incentive to additional research along this particular line. Also the question of the absence of these glands in relation to pneumonic infections.

Teeth.

Twenty-two per cent had serrated teeth, twelve per cent suffered from decayed teeth and eighty-eight per cent had good teeth.

Weight of Adenoids and Tonsils.

Weight Adenoids.

Boys average	1	gram	
largest	2	gram	700 milligrams
smallest			60 milligrams
Girls average	1	gram	300 milligrams
largest	3	gram	950 milligrams
smallest			50 milligrams

Weight Tonsils.

Boys average	Right	1 gram	600	milligrams
largest	Left	1 gram	400	milligrams
largest	Right	3 gram		
largest	Left	3 gram	400	milligrams
smallest	Right		300	milligrams
smallest	Left		500	milligrams
Girls average	Right	1 gram	700	milligrams
	Left	1 gram	700	milligrams
largest	Right	4 gram		
largest	Left	3 gram		
smallest	Right	1 gram		
smallest	Left	1 gram		

Mental Status.

Relative to the mental status prior to and following the respective operations, the results obtained by same were remarkable.

Of the fifty-seven cases under consideration, ten were under the school limit. Therefore, considering forty-seven cases wherein reports were available, the following is the result of this particular investigation:

In passing let me impress that these data are the result of either a statement from the teachers of these pupils regarding their work at school before and after the operation, or obtained directly from the individual reports of the pupils.

In seven cases no reports were received and of the forty remaining cases, four, or ten per cent, showed no progress and thirty-six, or ninety per cent, showed appreciable improvement. Of the four who failed to be improved by a removal of tonsils and adenoids, one was a child with syphilis, and one other belonging to the class designated as morons.

To cite some of the paragraphs received from their teachers as follows:

"Some improvement." "Better work than previous year." "More effort displayed." "Improved wonderfully." "Improvement first term, not so much second." "Before removal, not transferred, after removal transferred." "Very much improved both mentally and physically." "Has made progress." "Remarkable improvement." "Not transferred before removal, but after." "More attentive." "A very small but gradual improvement." "Am happy to tell you that he is studying more since tonsils and adenoids were removed." "Greatly improved." "Attention better." "More concentration."

Encourage the removal of these organs between the ages of six and eight years—then striking results will be obtained by the time the child enters high school—otherwise if the operation is postponed until a time after 8 years the improvement will be less appreciable—remembering carefully the indications already mentioned.

CONCLUSIONS.

1. Children exhibiting some alterations in the normal histology of tonsils and adenoids, give marked evidences of mental retardment.

2. Rheumatism, syphilis and tuberculosis from hereditary and environmental points of view have but little significance as causative agents of diseased tonsils and adenoids.

3. This series of fifty-seven cases did not exhibit the pathological entities attributable to tonsils and adenoids, namely, endocarditis, myocarditis, rheumatic fever, chorea, etc.

4. In all there were twenty-nine causes for the removal of these glands—the marked improvement was evidenced only in cases where (1) persistent sore throat and tonsilitis with temperature; (2) frequent colds; (3) frequent attacks of suppurative otitis media; (4) mouth breather and suppurative lymph nodes were the factors of their removal.

5. Adenoidectomies should always be practised where the child is a mouth breather before the tonsils are enucleated.

6. The largest tonsils (by weight) were those removed from

patients who previously had measles and scarlet fever; the smallest from children who had mumps and whooping cough prior to operation.

7. Only one child gave a history of pneumonia before the tonsils and adenoids were removed.

8. No relation between abnormal and diseased teeth on the one hand and glands on the other.

9. *Weight Status.*—The weight curve showed appreciable improvement after ten (10) years of age; gains were noted between 6 and 10 years, inappreciable before this time. Children with diseased tonsils are practically all underweight, namely 3% to 26%.

10. Gratifying results were obtained in ninety (90) per cent of forty cases where reports and statement were secured and especially marked in cases where frequent colds, tonsilitis (with temperature), and mouth breather were the factors for their removal.

11. Frequent temperature traced to the tonsils and adenoids should be the indication for immediate removal after the acute symptoms have subsided, despite the fact that the child might be between the age of 12 to 24 months, respectively; on the other hand, if there is no temperature but the patient suffers from symptoms attributable to tonsils and adenoids, do not remove these organs until the child reaches the age of 6 years. Finally, it is my hope that these modest findings will not be misunderstood, remembering this is the view point of a pediatrician.

AN EARLY CASE OF LEPROSY.*

By PERCY LENNARD QUERENS, M. D.

Assisant-Surgeon, Nipe Bay Hospital, Preston, Cuba.

As early leprosy is infrequently seen, possibly due either to ignorance on the part of the patient, or attempts to conceal the condition, also to errors in diagnosis, the following case is presented as one of interest to the general practitioner who seldom has the opportunity of making a detailed study of this uncommon infection. The following history is typical:

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M. H., a native Cuban, negro race, aged twenty years, was admitted to the hospital August 7, 1916. There is a negative family history concerning tuberculosis, cancer, and leprosy. There is nothing of interest in his early life that would have any bearing on the present condition.

Two years and three months ago he lived with a known leper, eating at the same table, occupying the same room, but in a different sleeping hammock. This lasted one year. Three months after leaving he developed a sensitive bubo in the right groin which became as large as his thumb, and associated with fever. No venereal condition was present. The bubo then disappeared gradually, not being followed by any skin rash. Two months later there began to appear on the face, forehead, and ears, small nodules which have slowly increased in size. Later he began to suffer from frequent epistaxis, the nose being very sore; general muscular pains and some slight fever. He has had neither gastro-intestinal nor genito-urinary symptoms. Lately he has noticed that his voice is becoming hoarse and feels slightly dizzy at times.

On examination we find a moderately developed and nourished adult, five feet eight inches in height, and weighing one hundred and forty pounds. The most striking feature is the face, which presents a typical picture, though one that may be misleading. There are first noted scattered nodules varying from a small pea in size to that of a marble, with a tendency to localize over the superciliary ridges, nose and helix of the ear; a few are found on the forehead, chin and cheeks. They are firm in consistency, movable, with a sessile base, and easily identified from the surrounding tissue. The area above them is anesthetic, and they are painless on pressure. On the tip of the nose a few smaller ones are grouped, while on the septum larger ones are present which partly obstruct the external nares. The scalp is negative, with no appreciable loss of hair. The conjunctivæ are congested; corneæ are clear, and scleræ are negative. Vision is unaffected, though pupillary reflexes are sluggish. The mouth and tongue are negative; the naso-pharynx is congested, likewise the larynx.

The glands, including both the anterior and posterior cer-

vical groups, submaxillary and posterior auricular, are enlarged, hard and discrete, though not tender on palpation.

The upper extremities are negative for both the presence of anesthesia and tubercles. The larger nerves, wherever palpable, are unaffectd.

The skin of the chest is dry, hyperesthesia is present; no nodules are detectable. The inguinal and femoral glands are enlarged, discrete and slightly tender. Cremasteric reflex is present. The testes are atrophied and insensitive to marked pressure; there is no evidence of past lesions about the genitalia.

The thighs exhibit irregular sized areas of loss of pigmentation with decreased sensation; the knee-jerks are exaggerated.

The external surfaces of the lower third of each leg are characterized by an area of anesthesia, irregularly rectangular, twelve centimeters and five in width, well defined from the adjoining skin surface, being light brown in color, glossy in appearance and with absolute loss of sensation; beyond the margin into the area of healthy skin the sensation gradually improves. The center of the area on the right leg is occupied by a scaly, ulcerated patch, about six by two centimeters in size with irregular shallow edges, showing no tendency toward epidermatization; within are sparse anemic granulations that scarcely bleed on irritation.

On the left leg there is no ulcer, but a few dry scales cover the central portion, beneath which the skin shows signs of impending destruction.

There is above each heel an area of anesthesia, with a small ulcer over the right similar to that on the outer aspect of the leg.

The Babinski reflex is exaggerated.

Of the special senses vision is unaffected; audition is faulty, a watch not being heard at five feet, and within the mouth it is scarcely heard. Sense of smell is unaltered. Taste is unaffected. Heat and cold are appreciable in all areas except those where anesthesia is present. Differentation between the sharp and blunt point is apparently simple.

Scrapings from an incised tubercle of the ear reveals the following: Acid-fast bacilli in large numbers enclosed within

large giant cells, large numbers of young connective tissue and plasma cells.

The blood is negative, likewise the urine and feces. Temperature 98° F. Pulse 80.

APPENDECTOMY REDUCED TO ULTRA SIMPLICITY: THE INGUINAL CANAL AS A MEANS OF ACCESS; A ONE-INCH INCISION AND ONE SUTURE CLOSURE; LOCAL ANESTHESIA WITH TOTAL CONFINEMENT OF THREE DAYS; REPORT OF FIFTY-ONE CASES.*

By J. T. NIX, JR., M. D.

Adjunct Professor of Surgery, New Orleans Post-Graduate School of Medicine, New Orleans.

The coexistence with right oopheritis or salpingitis of a chronic or sub-acute appendicitis, the comparative frequency of the occurrence of the appendix in the sac of a right inguinal hernia, together with the ease of its removal in the course of herniotomy suggest the idea of the inguinal canal as an avenue for appendectomy.

Old anatomists tell us that the appendix lies at McBurney's point, but more recent observers have established the fact that it is seldom found there, but usually further down and external.

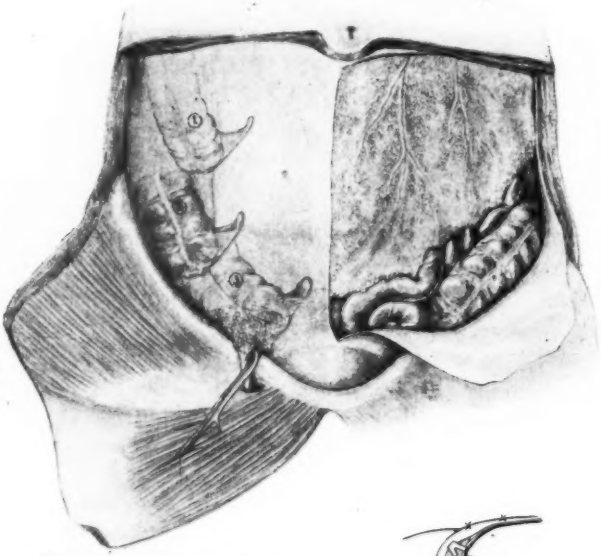
In the cadaver, when the mesocolon and meso-appendix are contracted from death and shriveled from preserving fluids, the appendix corresponds more nearly to McBurney's point than in life, and as all standard anatomies were written from the cadaver the vermiform process is always described as being located at this site.

In life the proximal colon lies in the right iliac fossa on the concave smooth floor of the ileum and overlying muscles. The appendix never corresponds to McBurney's point but is always lower down and external. If for any reason the cecum becomes distended, the internal obliquity of the iliac plane together with gravity when the body is erect cause it to slide on its peritoneal floor, downward and inward from its normal position. Corre-

*Read before the Orleans Parish Medical Society, February 26, 1917. [Received for publication March 12, 1917.—Eds.]

spondingly, the vermiform process, at the very end of the cecum is moved toward the inguinal canal and lies at a point very near the internal abdominal ring.

Therefore in the cadaver, the appendix is nearest McBurney's point. In life the healthy appendix is always external and below this landmark, and in appendicitis, the vermiform process lies near the internal abdominal ring.



① CECUM IN CADAVER...APPENDIX AT MCBURNEY'S POINT.
② NORMAL CECUM WITH APPENDIX BELOW AND EXTERNAL TO MCBURNEY'S POINT.
③ DISTENDED CECUM...APPENDIX NEAR INTERNAL ABDOMINAL RING: APPENDICITIS.

SAGGITAL SECTION THROUGH MCBURNEY'S POINT.
① PERITONEUM AT MCBURNEY'S POINT IN CONTACT WITH PARIETAL WALL.
② PERITONEUM AT LOW INCISION AWAY FROM ABDOMINAL WALL.

When I speak of the appendix I do not mean the tail, which is angular, free, and may be pointed in any direction, retrocecal, anterior, posterior, or lateral, but I refer to the attachment of the appendix to the cecum, its base, which is a fixed point and always at the lower border of the cecum. Therefore we locate the appendix not by looking for the appendix itself, but by first finding the ileo-cecal valve, then the base of the appendix which is three-fourths of an inch away.

Incision—Make a small cut one-half to one inch in length over the inguinal canal, the lower end being about one inch from the right pubic spine. Dissect through the fat and with small retractors expose the external oblique aponeurosis and the columnar fibers of the external ring.

Separate the fibers of the external oblique, but leave the ring intact. Retracting the divided aponeurosis exposes the conjoined tendon and below that the round ligament in the female and the spermatic cord in the male.

We are now in the inguinal canal proper. The conjoined tendon could be retracted upward, but in order to establish a firmer closure the strong fibers of the tendon are separated as in the gridiron technic. Retracting the divided conjoined tendon exposes a little pad of fat which protects the internal abdominal ring and separates the peritoneum at this point from the abdominal wall.

The deep epigastric artery and vein usually can be seen pulsating in the depths of the incision. By retracting upward with a small curved forceps the peritoneum is caught and divided with scissors, thereby opening the abdominal cavity. A small bluish loop of large bowel can be seen through the incision. This is the lower border of the proximal colon, and the appendix is only about one-half to one inch away. With very little difficulty the base of the vermiform process is reached and the appendix delivered into the opening. If it is retro-cecal and adherent, delivery is impossible and the retrograde sub-peritoneal enucleation can be easily performed.

Fifty-one cases have been operated on by this technic during the past year. I will review two of the typical cases:

Miss E., Napoleon Ave., New Orleans, April 18, 1916.

Complaint: Digestive disturbances, constipation, paroxysms of acute pain and tenderness in the right iliac fossa and near McBurney's point. No menstrual irregularities, slight leucocytosis.

Diagnosis: Recurrent appendicitis.

July 15, appendectomy, sixteen minutes. Appendix was filled with fecal concretions, injected and adherent. It was removed retrograde and sub-peritoneal, being peeled out from base to tip.

July 16, first day post operative, castor oil one-half

ABOVE—One week after operation. Patient left institution in 48 hours.
BELOW—Shows position of appendix in appendicitis, near internal ring.

ounce and soft diet the same afternoon. There was no reactionary disturbance, no gas pain, and only slight nausea following etherization.

July 7, second day post operative, the patient felt perfectly normal, was allowed to get up and went home the same day. The suture was removed on the fourth day.

Second case: S. H., male, forty-five years old, all classical symptoms of acute appendicitis.

June 15, 1915, appendectomy. The appendix was acutely inflamed, strangulated, and at the point of rupture. A rubber tissue tube drain was inserted and removed after twenty-four hours.

June 16, castor oil one-half ounce, and light diet in the afternoon.

June 17, patient was let up and permitted to leave the institution next day.

Ten of these operations have been performed under local anesthesia. It takes about five minutes longer, but the result is even more striking. In some cases gas pains seem to be more pronounced after local anesthesia. This, however, can be avoided by giving a hypodermic of morphin with pituitrin immediately following the operation.

In only three cases of the entire series was it necessary to change the incision.

1. Adult, male, nineteen years old.
Numerous large glands covered the cecum and were removed before the appendix was accessible. The skin incision was lengthened in the same direction but the muscle was divided upward according to the "Battle" technic. The patient was kept in bed nine days.
2. Adult female, eighteen years. After opening the abdomen digital exploration revealed double pus tubes. The incision was converted into a Pfannenstiel and both tubes removed. The patient left the institution on the tenth day.
3. Adolescent girl, fifteen years old. Malposition of the appendix. It was adherent and misplaced high behind the ascending colon, the tip being very near the lower border of the liver. Technic same as in first case.

Special advantages of this incision:

1. It is over the prevesical space where the peritoneum is

not in contact with the abdominal wall and consequently there is little possibility of a post operative hernia.

2. The unusually low incision permits the index finger to be inserted and the pelvis explored, a requirement imperative in females.

3. To meet complications the incision is easily converted into a Pfannenstiel for pelvic work, a Battle or large McBurney for higher abdominal work.

4. The site selected as best for an entrance into the abdominal cavity is that which nature has found best as an exit—the inguinal canal.

5. The incision is small and permits of very little exposure, manipulation, and traumatism of gut, consequenly there is less post operative disturbance.

6. The patency of the internal and external abdominal rings is not disturbed as the opening is between these points.

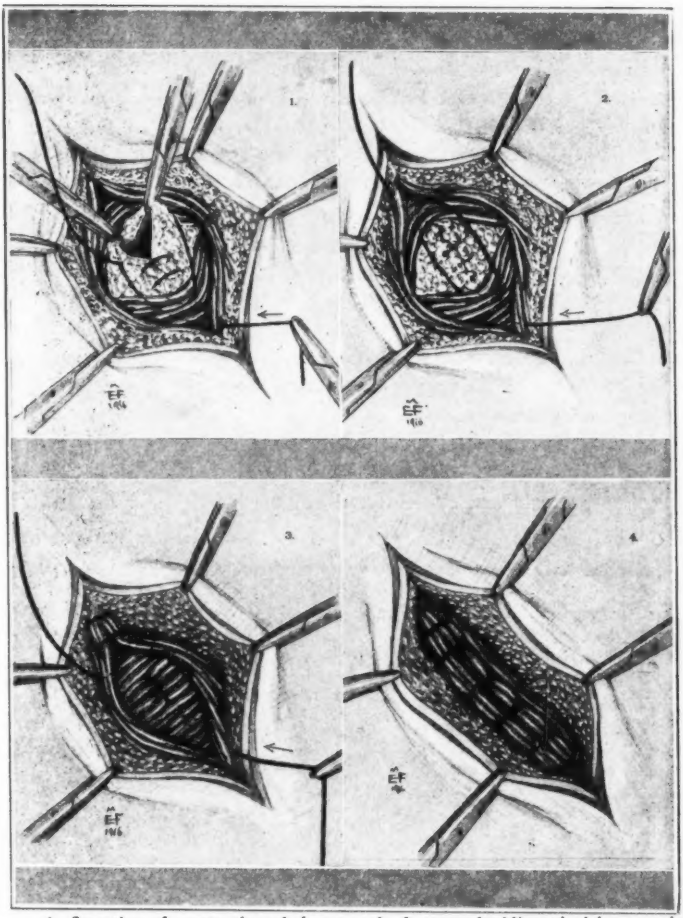
7. Because of the above reasons, after the dangers of peritonitis and secondary hemorrhage have passed it is perfectly safe to let the patient get up and walk in fory-eight hours and leave the institution on the third post operative day.

Closure—The special suture employed may be described better by referring to the drawings. Number two chromic cat gut is used on a medium size Hagedorn needle.

Fig. 1. Needle is inserted thru one edge at lower end of external oblique incision, penetrates and passes beneath the lower division of conjoined tendon crossing above peritoneum to under surface of upper portion of tendon, which it punctures from below outward; recrossing fom above and in the opposite direction to the lower edge, it again perforates this section of tendon and is inserted in the lower end of the longitudinal peritoneal incision which it closes from below upward by a continuous suture.

Fig. 2. Peritoneum is closed entirely and from its upper end the suture continues through deep muscles and emerges from the side and end of the external oblique incision opposite to the point of insertion. Second layer of muscles is not closed.

Fig. 3. The ends of the suture are now drawn producing tight closure of peritoneum and approximation of the divided transverse muscles which form the conjoined tendon.



1. Insertion of suutre through lower end of external oblique incision, passing through second muscular layer, crossing over peritoneum to under surface of divided muscles, completion of figure of 8 turn around transverse muscles, and continuous closure of peritoneum.

2. All points of 1 are brought out with emergence of suture from upper end and oblique edge of external oblique incision.

3. Traction on suture closes peritoneum, approximates divided transverse muscles, and obliterates dead space.

4. Final step of suture shows continuous closure of external oblique incision opposite in direction to that of peritoneum. Distal and proximal ends of suture are tied at port of inservtion.

Fig. 4. Suture is now continued from above downward closing rent in external oblique and securing the entire closure by

a single knot tied with distal end at the point of insertion.

One figure of eight silkworm gut suture is used for closing the skin.

The one-knot-continuous tier suture for external oblique, internal oblique, and transverse muscles, and peritoneum shortens the operation, lessens the danger of infection by imposing on the tissues less work, less cat gut to be absorbed, strengthens the closure by obliterating dead space and hastens firm union through the agency of these factors.

Any cough or strain, which otherwise might have a deleterious effect, tightens the suture and causes better approximation.

In appendicial abscess and cases of ruptured appendix, the small incision should not be used as free drainage is required. The operation, however, is applicable in more than eighty per cent of all cases.

RECAPITULATION.—Appendicectomy by selective technic becomes leveled to the plane of lighter operations. The horror of the knife, the dread of stitches, the fear of the anesthetic, and the intolerance of incapacitation are relieved and satisfied by the assurance that the incision shall be only one inch or less in length, that one suture alone will have to be removed, that the brevity of the operation, sixteen minutes, proportionately decreases the annoying sequelae, that a general anesthetic is seldom necessary that total disability is reduced from ten to three days, this being made possible by the firm, compact, one-knot closure tightening a normal opening in the abdominal wall. The low operation permits of the greatest accessibility and allows free pelvic exploration.

The simple methodical operation belongs to the province of minor surgery.

Before concluding I wish to thank Prof. Hardesty and Dr. Bayon for their kind suggestions and the use of their library.

DISCUSSION.

DR. H. B. GESSNER: In recent years, I have always removed the appendix when doing a right inguinal hernia operation, if it was easily brought down. I believe Dr. Nix's operation is applicable to some cases, but doubt the 80 per cent, which he mentions. My objections are that the small incision does not permit a proper examination of the abdomen. Many cases with symptoms of chronic appendicitis have gastric ulcer, gallstones, etc., and a proper diagnosis cannot be made without exploration. The systematic exploration of the abdomen in chronic cases is one of the most valuable innovations in surgery.

DR. P. B. SALATICH: Dr. Nix read a very splendid paper. I feel as Dr. Gessner does, that a large incision is preferable, for if there are any adhesions, or any trouble connected with the stomach or pelvic organs, these can be easily attended to by enlarging the incision. My preference is always for the Battle

incision, and I use this incision in all my cases. As to allowing the patient to sit up early I generally let my patient up, in the rolling chair, about the fourth day. A careful history should always be taken as to any trouble gynecologically, in young women, coming to the surgeon for appendix trouble, and if a history of some disturbance is present, an examination should be insisted on, so as to correct this trouble, at the same time that the appendix is removed. It is false modesty on the woman's part, and neglect on the surgeon if this is overlooked.

DR. HALSEY: In '84 Robert Morris, of New York, advocated a one and one half inch incision for appendectomy, and after years of investigation, the very small incision has been discarded.

DR. W. A. HENRIQUES: From the viewpoint of the rœntgenologists, a large incision is unquestionably preferable.

DR. NIX (in closing): Replying to Dr. Gessner. We find many cases in which the appendix is retro-cecal and adherent. In such instances the vermiform process cannot be delivered into the incision, but the base of the appendix, a fixed point, can be easily located and the appendix peeled out retrograde and subperitoneal. In only three of fifty-one cases was it necessary to enlarge this incision.

This operation is by no means offered as a substitute for the long median incision in exploratory abdominal work, but it is intended to replace the small McBurney or Battle so universally used.

When the time comes that we are no longer able to make any abdominal diagnoses and every diseased appendix is removed through a long six inch incision, when there no longer appears on the bulletins of scheduled operations behind the name of almost every surgeon—"appendectomy," and the operation is done through a McBurney or Battle incision, then I most willingly cast my lot with the rest and abandon all small incisions for appendectomy. Remember, however, that by digital examination through this site the pelvis can be freely explored and, if necessary, the incision enlarged as a Battle or Pfannensteil.

Reply to Dr. Salatich: "The incision is no stronger than the catgut that is used" and "I use the Battle incision and frequently let my patients get up in four days and leave on the sixth."

In the Battle incision the lines of division through the successive parietal layers are superimposed one over the other and a distinct area of least resistance is created. I would not permit a patient with a Battle incision to get out of bed before the seventh or eighth day. In the operation Dr. Salatich prefers, I agree, the incision is no stronger than the catgut used, but at the inguinal canal, between the external and internal rings, with no division of muscle but simply the separation of a thick bundle of fibers, the conjoined tendon, where the peritoneum is not approximate to the abdominal wall, but is separated by a pad of fat, it is impossible to herniate even though the catgut be faulty.

Replying to Dr. Halsey: Many one inch incisions have been advocated in the past and abandoned—very properly so. A similar incision at any other point on the abdominal wall, possessing no special advantages except its lack of size represents bad surgery.

I have been unable to find any previous description of this operation in the literature.

Replying to Dr. Henriques: X-ray pictures of the appendix are hard to find. This one plainly shows colonic ptosis, however it brings out emphatically the point I wish to impress, viz., the appendix is not at McBurney's point, unless anomalous, but is lower down and external. Whenever the cecum is distended or ptosed, the base of the appendix corresponds to a point very near the internal abdominal ring.

COMMUNICATIONS.

TYPHOID FEVER AND HOG CHOLERA.

Huntington, Tenn., March 3, 1917.

EDITORS NEW ORLEANS MEDICAL AND SURGICAL JOURNAL:

For many years I have had an idea that typhoid fever and hog cholera were closely related, if not the same disease, modified by being in different animals.

Having had a painful observation of the trouble fifteen or twenty years ago. In the instance referred to, the hogs commenced dying in the early spring from cholera. The range of the hogs, and where they died and rotted, was a sloping hillside, above the family residence, so that heavy rainfalls would wash the decomposing fluid matter from the dead hogs' bodies down toward, if not in, and around the yard where the people lived, who were the sufferers.

On the hillside, where the decomposing carcasses lay, about one hundred yards above the residence of one of the families, was a well, fifteen feet deep, supplying water for family use. Over the end of the delivery spout of the well I noticed a cloth. Upon investigation it was found that the water in the well was infested with small white worms and that the cloth was placed over the spout as a filter. Close by the well was a hog wallow, where sick and well hogs took their daily bath. The water from the hillside and fattening hog pen flowed all over the yard and about the well of the other family.

I mention these facts so that the reader may get a clear idea of the situation. Every member of the two families exposed in this way had more or less fever during the month of June of that year. Five or six cases were diagnosed to be typhoid fever. Two of the members died, one from relapse from imprudent eating.

From these and other facts collated, I have decided that the two diseases are certainly closely allied, typhoid caused by what is known as the bacillus typhosus, hog cholera closely associated with the bacillus of the colon group, almost undistinguishable from the bacillus typhosus. The pathological lesions of the intestines are very similar.

In 1856, I commenced the practice of medicine at Clarksburg, Carroll County, Tenn., with my brother, Dr. Henry McCall, in the midst of the most extensive epidemic of typhoid fever I have ever witnessed. One or more cases of the disease was in 50%

of the families in that community. Very few deaths occurred. The treatment was a small dose of calomel or blue pill at night, moved off next morning with castor oil. Mucilage of turpentine was given throughout the treatment of the disease. Castor oil was administered to move the bowels when thought necessary. Any complications occurring were treated according to indication. To prevent passive congestion of posterior position of lungs, and hypostatic pneumonia, the patients were directed to change positions in bed occasionally and not to lie on back too much. Keep clean. This is about the treatment of typhoid fever sixty years ago. Hog cholera was common throughout the country then, but not viewed by anyone as a possible ally of typhoid fever.

The profession of medicine is broad and has an endless field for study, and as progressive men we should ever be on the alert and note the environments of the epidemic conditions and habits of the people who suffer therefrom.

Of late years I have made special inquiry where there was an epidemic of typhoid fever in the country to ascertain if hog cholera had previously existed in the infected district also, and vice versa, and the answer has generally been in the affirmative.

Signed: *J. W. McCall, M. D.*

STATE BOARD OF MEDICAL EXAMINERS.

New Orleans, March 17, 1917.

DRS. CHASSAIGNAC AND DYER, Editors:

Dear Doctors—At a special meeting of the Louisiana State Board of Medical Examiners, held March 17, Dr. J. A. Henderson, who has been appointed a member of this Board by the Governor to fill the vacancy caused by the expiration of my term of office, was elected Secretary-Treasurer. Dr. S. L. White, Vice President, and Dr. Homer Dupuy forwarded to the Governor their resignations as members of the Board.

In closing my term of office I could not allow the occasion to pass without extending to you, both in the name of the Board and myself, sincere thanks for the many courtesies of which we have been the recipients.

With kindest regards and best wishes for the continued success of the work of the JOURNAL, yours very truly,

Signed: ***E. L. Leckert,*** **Secretary.**

CURRENT LITERATURE

TWO NEW FLY-KILLERS.—Two excellent fly-killers have recently been suggested by Phelps and Stevenson of the U. S. Public Health Service. They are formaldehyde and sodium salicylate, and are described as much safer and more efficient than the familiar arsenic preparations. For household use, solutions are prepared by the addition of 3 teaspoonfuls of the formaldehyde as found on the market, to a pint of water. Or 3 teaspoonfuls of sodium salicylate are dissolved in a pint of water.

Nearly fill a glass tumbler with either of the above solutions, place over this a piece of blotting paper cut roughly to circular form somewhat larger in diameter than the tumbler, and over this invert a saucer. Invert the whole devise and then insert a match or toothpick under the edge of the tumbler to allow access of air. The blotting paper will remain in the proper moist condition until the entire contents of the tumbler have been used; the strength of the formaldehyde solution will be maintained. A little sugar sprinkled upon the paper will increase the attractiveness for the flies.

The authors state that either of these preparations may be safely used where there are young children, although the addition of the sugar is not recommended in such cases. The formaldehyde has an unpleasant taste, and in the concentrations recommended a harmful dose could not be taken. No bad effects would result from a considerable quantity of the salicylate. —*U. S. Public Health Reports*, Nov. 3, 1916.

HYPERIDROSIS.—Localized hyperidrosis is a common disorder which of itself may be only a minor annoyance, but not infrequently, when complicated by bromidrosis, dysidrosis or hyperkeratosis, it is of greater importance and may incapacitate the patient, making walking painful, and also the use of the hands, or the knowledge that an unpleasant odor clings to one may interfere with social pleasures. Stillians, (*Journal A. M. A.*, Dec. 30, 1916), says that treatment heretofore had been unsatisfactory until it had been shown that it could be controlled by the Rœntgen ray. This, however, is expensive and not altogether safe, and he recommends to the patient as an inexpensive local application a 25 per cent. solution of aluminum chlorid. In prescribing this the fact that it is incompatible with alkalies,

sulphur, phosphorus and selenium must be remembered. A 25 per cent. solution in distilled water, applied gently on the part every second or third day and allowed to dry on before the clothing is allowed to touch the skin, will cause a rapid amelioration of the excessive sweating, and one application a week may be made to ward off recurrences. The drug causes an itching or stinging snsation, which usually subsides spontaneously if the part is not scratched. Excessive or careless use followed by scratching may cause a dermatitis, but he has never seen this happen when usual care was exercised. If itching does occur in spite of precautions, an ointment of cold cream with 12 per cent. boric acid may be used, or a calamine lotion with or without 0.5 per cent. phenol (carbolic acid) may be used. He has used this aluminum lotion in twenty cases without failing in one to give relief. Most were cases of simple hyperidrosis of the axillæ or feet, but three were cases of persistent vasicular eruption of the feet with excessive sweating. He reports the worst of these. Care has always been taken to reduce and active inflammation before using the aluminum lotion. He knows of no other drug equally effective with so little danger, and it has done wonders in the limited series of cases in which he has mployed it.

Human Anthrax.—Brown and Simpson, (*Journal A. M. A.*, Feb. 24, 1917), give an account of an epidemic of human anthrax involving twenty-five cases, and traced to a single source. Twenty-three of the twenty-five reported cases were in persons handling hides, which were traced to an importation from Hankau, China, and were shipped to three tanners in Massachusetts. Three of the cases resulted fatally, and the authors report these in tabulated form. There was considerable diversity of treatment: incision, antiseptic compresses, cauterization, mercuric chlorid dressings, and serum treatment, which they consider the most promising. Excision seemed to be less satisfactory than the expectant method. They suggest greater precautions against the production of the disease, and offer the following conclusions: "1. Anthrax infection is an important occupational disease. 2. The federal authorities should gather information as to the distribution of anthrax infection among cattle in all hide-producing countries. 3. Renewed efforts should be made to discover an efficient method of disinfection which does not injure the hide and is not prohibitive in price. 4. Tannery workers should be safeguarded against this infection. 5. The serum treatment should be thoroughly tried."

NEWS AND COMMENT.

THE AMERICAN SOCIETY OF TROPICAL MEDICINE will meet June 4 and 5, 1917, at the New York Academy of Medicine.

FEDERATION OF STATE MEDICAL BOARDS.—At the annual meeting of the Federation of State Medical Boards of the United States, held in Chicago, February 6, 1917, Dr. David A. Strickler, Denver, was re-elected president; Dr. Walter L. Bierring, Des Moines, Iowa, re-elected secretary-treasurer, and Dr. Conrad H. Suttner, Walla Walla, Wash., a member of the executive committee.

MEDICAL COLLEGE OFFICIALS ELECT.—The twenty-seventh annual meeting of the Association of American Medical Colleges was held in Chicago, February 6, and Dr. William S. Carter, Galveston, was elected president; Dr. Edward H. Bradford, Boston, vice-presient, and Dr. Fred C. Zapffe, Chicago, re-elected secretary-treasurer.

PUBLIC HEALTH SERVICE FOR YOUNG MEDICAL MEN.—The ninth annual meeting of the National Committee for Mental Hygiene was held in New York, February 7. It was announced that during the past year over $30,000 had been contributed for general expenses by four donors, one of whom had also pledged $1,000,000 towards an endowment fund. For surveys of conditions among the insane and feeble-minded and for other special purposes, the sum of $34,000 had been contributed by the Rockefeller Foundation. The following officers were elected: president, Dr. Lewellys F. Barker, Baltimore; vice-presidents, Prof. Charles W. Eliot, Boston, and Dr. William H. Welch, Baltimore; treasurer, Mr. Otto T. Bannard; medical director, Dr. Thomas D. Salmon, New York; associate medical director, Dr. Frankwood E. Williams, Boston, and secretary, Mr. Clifford W. Beers.

OFFER OF RED CROSS BASE HOSPITAL.—As a memorial to Col. Eli Lilly of Indianapolis, the Eli Lilly Company, Indianapolis, has offered the local chapter of the American Red Cross $25.-000, to establish a base hospital of 500 beds. Dr. Carleton B. McCulloch is to be director of the hospital.

JAPAN LOSES MEDICAL COLLEGE AND HOSPITAL.—On February 20 fire destroyed the Osaka Medical College and Hospital, the largest in Central Japan. The 470 patients in the hospital were all, it is believed, removed in safety. The loss exceeds $1,500,000.

INTERSTATE QUARANTINE REGULATIONS.—February 12 ,1917, amendments were made to the interstate quarantine regulations promulgated by the Treasury Department, January 15, 1916, relating to the following subjects: water for drinking or culinary purposes provided at stations by interstate carriers; interstate transportation of persons having contagious or infectious diseases; sanitation of camps occupied by migratory workers, and prohibiting the interstate transportation of oysters and clams grown or handled under insanitary conditions. Public Health Reports for February 23 contain the text of these amendments.

GIFT TO UNIVERSITY OF ILLINOIS.—According to report from Urbana, Ill., Congressman William McKinley has given to the University of Illinois the sum of $120,000 to establish an infirmary to be the basis of an extensive health service for the students and teaching staff.

RADIUM MAGAZINE.—A new magazine, *The Radium Quarterly*, recently published its first issue and, as its name implies, is devoted to the subject of radium therapy. The magazine is conducted by the Radium Institute of Chicago and is to be published four times a year, at a subscription price of $1.00 a year.

REPORT ON HOOKWORM.—The results of the campaign in one year's war on hookworm in Panama, R. P., is shown in the annual report of Dr. Burres, director of the Rockefeller Commission in Panama. There were 30,094 persons examined and 50,491 treatments administered during this campaign. This organization is part of the Rockefeller International Health Commission, which has branches in many parts of the world. Dr. Burres states in his report: "Apart from the great amount of clinical work accomplished there is carried on a campaign of instruction in matters of personal hygiene and public health which has far-reaching results and does quite as much good as the actual treatment for hookworm. These results are obtained by the school and public lectures given in all the districts

where the work is carried on, and by individual talks and the distribution of literature."

MENACE OF BACKYARD FENCE.—A campaign for the elimination of the high-board fence and the substitution of a light iron fence in its stead is being undertaken by the Tenement House Committee of the Child's Elevation Society of New York. Some of the disadvantages given against high-board fences are that they require constant repair, increase fire danger, furnish shelter for thieves and rubbish, and shut out light and air.

AMERICAN RED CROSS EFFICIENCY.—According to a report from Washington on February 9, the American Red Cross, in the event of war, could in a few days mobilize a sufficient personnel and equipment to take medical care of an army of 1,000,000. Mr. Eliot Wadsworth, acting chairman of the organization, estimated that the force which could be mobilized immediately in case of war would include the following:

Twenty-six completely equipped army and navy base hospitals units, with a total personnel of 1,250 nurses and 509 nurses' aids.

A hospital base reserve of 415 nurses and 525 nurses' aids.

Thirty-one partly complete navy detachments of 20 nurses each.

One hundred and fifteen emergency detachments.

A corps of expert instructors in surgical dressings, totalling about 120.

The American Red Cross is better prepared and more efficient to-day, it is believed, than it has ever been for any other national emergency.

AID OF THE BELGIAN PROFESSION.—Dr. F. F. Simpson, treasurer of the Committee of American Physicians for the aid of the Belgian Profession, reports the total receipts for the quarter ending February 28, 1917, $7,961.26; total disbursements, $7,310.04, and a balance of $651.22.

THE JOURNAL OF UROLOGY.—This journal, the first number of which appeared in February, is intended to be the archives for papers dealing with the urinary tract and correlated subjects, whether from a medical, surgical, clinical or experimental point of view. It aims to publish a number of interesting his-

torical papers and in its type and illustrations will conform to the highest standards. The editors invite those who have any papers ready or nearly completed, which would be suitable for the *Journal of Urology,* to submit them for early publication. The editor is Dr. Hugh H. Young, Brady Urological Institute, Johns Hopkins Hospital, Baltimore, Md.

EXAMINATIONS IN OPHTHALMOLOGY.—The first examination of the American Board of Ophthalmic Examinations was held at Memphis, Tenn., December 14 and 15, 1916, with twelve applicants before the board. The successful applicants will be duly certified after its next regular meeting. The 1917 regular annual examination will be held just before the New York meeting of the American Medical Association, at which time only those whose applications were filed before March 1 can go up for examination. Details regarding these examinations and their requirements can be obtained from the secretary, Dr. Frank C. Todd, 506 Donaldson Bldg., Minneapolis.

THE BUBBLING FOUNTAIN.—An epidemic of streptococcus amygdalitis at the University of Wisconsin is said to have its source from a "bubbling fountain" in that institution. Streptococci were found on more than half of the fountains lodged on the metal piece surrounding the mouth of the water pipe. Says the editor of the *Buffalo Medical Journal*: "We have often wondered just how effective the current of water might be against the rinsing of various mouths, including those of dogs, birds and horses and against the grimy hands of boys who squirt water from these sanitary (?) supplies."

NEW HEAD OF CITY BOARD OF HEALTH.—Dr. W. H. Robin was elected superintendent of public health and chairman of the Board of Health of the City of New Orleans, to succeed Dr. W. T. O'Reilly, whose death occurred last month. Dr. F. R. Gomila was appointed secretary at a salary of $2400 a year. Dr. George C. Hauser succeeded Dr. Gomila as assistant bacteriologist.

BARS THE TUBERCULAR.—Phoenix, Arizona, by an ordinance adopted last July, has made it unlawful for any hospital, hotel, boarding or rooming-house knowingly to receive, lodge or board any persons suffering from pulmonary tuberculosis, unless under a permit from the city health officer.

CHILDBIRTH COMPLICATIONS CAUSE DEATH.—According to

Dr. Grace L. Meigs of the Children's Bureau, complications of childbirth caused in the United States, in 1913, more deaths among women from 15 to 44 years of age than any disease except tuberculosis. At least 15,000 women die each year from such complications, and during the last ten or fifteen years no substantial decrease can be found in the death rate from childbirth. The chief reason for such mortality, says Dr. Meigs, is that women and their husbands do not yet realize that every woman needs, and has a right to, skilled care at the time of the birth of her children. A bulletin on this subject has recently been issued by the Children's Bureau, Washington, D. C.

NATIONAL MEDICAL EXAMINATION.—The National Board of Medical Examiners will hold its second examination in Washington, D. C., beginning June 13, 1917, and lasting about one week. Successful applicants may enter the Reserve Corps of the Army or Navy without further professional examination, if examination papers are satisfactory to a board of examiners of those services. Application blanks and further information may be obtained from the secretary, Dr. J. S. Rodman, 2106 Walnut St., Philadelphia.

PERSONALS: On March 3, Drs. J. M. Baldy and I. D. Metzger, of the Pennsylvania State Examining Board visited New Orleans for an inspection of the Tulane School of Medicine and of the hospitals of New Orleans.

The friends of Dr. F. W. Parham will be pleased to learn of his recovery after a severe surgical experience in the removal of a diverticulum, with no malignant feature. While the Doctor is still at the Mayo Clinic convalescing, he expects to be back home and his work soon.

The friends of Dr. C. C. Bass will be glad to learn that he is recovering from an attack of pneumonia which has kept him confined to bed for some weeks.

REMOVALS: Dr. S. E. Thompson, from San Angelo to Kerrville, Texas. Dr. J. L. DuBose, from Gay to Jacksonville, Texas.

DEATHS: On March 3, 1917, Dr. Allen Anthony Kennedy, one of New Orleans' promising young physicians.

On March 10, 1917, Dr. William T. O'Reilly, president of the New Orleans City Board of Health, aged 56 years.

BOOK REVIEWS AND NOTICES

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Gynecology, by William P. Graves, A. B., M. D., F. A. C. S. W. B. Saunders Company, Philadelphia and London, 1916.

So many excellent text-books on this subject have appeared in rapid succession that an author who expects enthusiastic approval of a new book must arrange his text in some more practical form, or else present new material for consideration. That Dr. Graves has succeeded in satisfying both of these requirements no one can deny after reading this splendid volume of 770 pages, which while larger than the average text-book does not appear to contain a single irrelevant page.

The first feature of the work to win admiration is the illustrations. All of the half-tone and pen-drawings were made by the author, who displays unusual talent as an artist. This additional advantage of being able to illustrate his text has enabled him to eliminate many unnecessary illustrations and to emphasize more clearly the essentials in technic and anatomy.

One notes in the beginning chapters the absence of the usual sections devoted to anatomy and in their place a more elaborate discussion of the physiology and relationship of gynecology to the general organism. Over 150 pages are devoted to this very interesting phase of modern gynecology, and no other text-book contains a more complete and yet condensed discussion of the present status of the endocrine glands in gynecology.

The author has succeeded in producing a work equally as valuable to the practitioner as to the undergraduate student. The excellent description of operative measures, made doubly valuable by the illustrations, should commend it as a ready reference for the surgeon, while the numerous microscopic drawings and the space devoted to pathology leaves nothing to be desired by the student.

The entire text reflects the work of a scholar, an artist, a pathologist, and a surgeon of ripe experience—a combination of faculties rarely observed.

Miller.

The Surgical Clinics of Chicago. W. B. Saunders & Co., Philadelphia and London, 1917. Vol. 1.

The first number of this new publication consists of 215 pages devoted to the relation of surgical cases and the details of surgical technic from various surgical clinics of Chicago. It is to appear monthly and seems to be a companion volume to the "Medical Clinics of Chicago," which has been issued with much success for nearly two years.

The first number contains contributions by twelve of the leading surgeons of Chicago, who have presented in a concise form the pathology, history and operative details covering a wide range of the surgical field.

In addition to the ordinary case reports, excellent illustrations are introduced, besides a summary at the beginning of each contribution, to aid the busy reader in obtaining the essential facts.

The editors have set a high standard for future numbers and there is no doubt of the prompt acceptance of the publication by the profession.

Miller.

The American Year Book of Anesthesia and Analgesia. By F. H. McMechan, A. M., M. D. Surgery Publishing Company, New York, 1916.

The steady advance of scientific medicine and the accumulation of knowledge and experience in all its branches has gradually encouraged the development of specialties in fields which a few years ago attracted little attention and apparently offered little inducements for the entire attention of the scientifically trained physician.

The anesthetic specialist is now a necessity and with many of these whose skill and ability are well recognized, their services are much sought for by both surgeon and patient. With local anesthesia the surgeon is the anesthetist and the successful application of this form of anesthesia to major operations requires special knowledge and skill, which are acquired only after much careful study and attention to this branch. The development of general anesthesia and its practical administration has been the result of a gradual evolution of the past 75 years, since the days of Crawford Long. Local anesthesia had its beginning with the introduction of

cocain into surgery by Karl Koller in 1884. Hailed as a great surgical novelty long sought for and eagerly awaited, it was in general use throughout the world within a period of a few months. This indiscriminate and promiscuous use of a drug but little known, soon brought it into disfavor with the rank and file of the profession. The period of experimentation followed during which its use was placed upon a firm and scientific basis. The maximum dilutions for effective use determined and the minimum toxic dose established, was accomplished by the pioneer workers in this field —Schleich, Reclus, Halstead, Carning, Matas, Cushing, Crile, Braun, Barker and others. This period was at its height about 1900. An interval followed during which local anesthesia attracted little general attention, but with the advent of adrenalin and the discovery of safer anesthetic drugs, it has come into its own and in the hands of many men is now a close competitor with general anesthesia in a large majority of all operations performed.

Within the last few years, several excellent text books of American authorities have been presented, which cover almost the entire range of surgery. The quarterly supplement of Anesthesia and Analgesia of the *American Journal of Surgery* edited by Dr. F. H. McMechan the first of its kind in America, is a most excellent and valuable publication, which is now supplemented by the American Year Book of Anesthesia and Analgesia by the same author, which has just made its first appearance, a publication of over 400 pages, replete with valuable an instructive articles on both general and local anesthesia, in which the physiological and practical clinical sides of general anesthesia are discussed in all its phases by leaders in this field. The articles on local anesthesia are by men many of whom are famous in this field and who are largely responsible for the popularity of this branch today. The volume illustrates the enviable progress in these fields and should prove a great success and reflects great credit upon the skill and ability of the editors in getting together such a galaxy of able authors. *Allen.*

The Practical Medicine Series. Under general editorial charge of Charles L. Mis, A. M., M. D., Vol. VI., General Medicine edited by Frank Billings, M. S., M. D., assisted by Burrell O. Raulston, A. B., M. D. Series 1916. The Year Book Publishers, Chicago.

The present volume deserves the commendation hitherto given former issues. The synopses given are timely, well chosen and well done. The volume on General Medicine of this series is always well worth attention.

I. I. Lemann.

PUBLICATIONS RECEIVED

C. V. MOSBY COMPANY. St. Louis, 1917.

The Newer Methods of Blood and Urine Chemistry, by R. B. H. Gradwohl, M. D., and A. J. Blaivas.

Practical Urinalyses, by B. G. R. Williams, M. D.

Clinical and Laboratory Technic, by H. L. McNeil, A.B., M. D.

Handbook of Suggestive Therapeutics, Applied Hypnotism, Physic Science, by Henry S. Munro, M. D. Fourth edition, revised and enlarged.

THE MACMILLAN COMPANY. New York, 1916.

Man—An Adaptive Mechanism, by George W. Crile, F. A. C. S. Edited by Annette Austin, A. B.

LEA & FEBIGER. Philadelphia and New York, 1917.

A Manual of Therapeutic Exercise and Massage, by C. Herman Bucholz, M. D.

REBMAN COMPANY. New York, 1917.

Text Book of Surgical Operations, by Prof. Fedor Krause and Emil Heymann M. D. Translated into English and edited for American readers by Albert Ehrenfried, A. B., M. D., F. A. C. S. In six volumes. Vol. II.

WILLIAM WOOD AND COMPANY. New York, 1917.

A Reference Handbook of the Medical Sciences. By various writers. Third edition, completely revised and rewritten, edited by Thomas Lathrop Stedman, A. M., M. D. Complete in eight volumes. Vol. VII.

W. B. SAUNDERS COMPANY. Philadelphia and London, 1917.

A Laboratory Guide in Pharmacology, by Torald Sollmann, M. D.

The Surgical Clinics of Chicago. Vol. I.

WASHINGTON GOVERNMENT PRINTING OFFICE. Washington, D. C., 1917.

Public Health Reports. Volume 32, Nos. 5, 6, 7, 8, and 9.

Mortality From Cancer and Other Malignant Tumors in the Registration Area of the United States. 1914.

Report of the Department of Health of the Panama Canal for the Month of December, 1916.

MISCELLANEOUS:

Quarterly Bulletin of the Louisiana State Board of Health. New Orleans, December, 1916.

Second Annual Report of the National Committee for the Prevention of Blindness. November, 1916. (130 E. 22nd St., New York City).

Specific Vaccine and Serum Therapy. (Eli Lilly & Co., Indianapolis).

Twenty-Ninth Annual Report of the Purdue University Agricultural Experiment Station. (Lafayette, Indiana, June 30, 1916).

Transactions of the Society of Tropical Medicine and Hygiene. November and December, 1916. (11 Chandos Street, Cavendish Square, W., London).

REPRINTS

Anomalies of the Gall Bladder and Bile Passages; Injuries of the Spinal Cord; Some South American Travel Notes, by August Schracner, M. D.

The History of the Use of Intravenous Injections of Tartar Emetic (Antimonium Tartaratum) in Tropical Medicine, by George C. Low, M. D., C. M.

Medical Organization Under Health Insurance, by Alexander Lambert, M. D.

Primer Caso de Leishmaniosis Cutanea en Venezuela; Algunos Datos Sobre el Diagnostico Bacteriologico y Epidemiologia de la Fiebre Tifoidea de Caracas; Consideraciones Sobre la Technica de la Reaccion de Wassermann e Interpretacion de los Resultados Obtenidos en 1025 Examenes, por Dr. Juan Iturbe.

A National Liquor Commission, by Henry Barrett Chamberlin.

The Use of Oxygen in Cystography, With a Preliminary Report on the Use of Oxygen in Pyelography, by Amedee Granger, M. D.

Studies in Cancer. No. 1; The Blood—Pathological Data; Cancer: Its Cause, Prevention and Cure; the Eclectic Treatment of Cancer; the Cancerous and Precancerous State; The Basis of Cancer Therapy; A New Contribution to the Etiology and Pathogenesis of Cancer, by Dr. E. M. Perdue, A. M., M. D., D. P. H.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans, for January, 1917.

Cause.	White	Colored	Total
Typhoid Fever	6	2	8
Intermittent Fever (Malarial Cachexia)	.....	.....	.....
Smallpox	.....	.....	.....
Measles	17	4	21
Scarlet Fever	1	.....	1
Whooping Cough	2	1	3
Diphtheria and Croup	3	.....	3
Influenza	15	14	29
Cholera Nostras	.....	.....	.....
Pyemia and Septicemia	2	1	3
Tuberculosis	56	67	123
Cancer	26	9	35
Rheumatism and Gout	1	3	4
Diabetes	5	3	8
Alcoholism	1	.....	1
Encephalitis and Meningitis	2	.....	2
Locomotor Ataxia	2	.....	2
Congestion, Hemorrhage and Softening of Brain	24	20	44
Paralysis	.....	.....	.....
Convulsions of Infancy	1	.....	1
Other Diseases of Infancy	22	8	30
Tetanus	1	.....	1
Other Nervous Diseases	4	2	6
Heart Diseases	66	57	123
Bronchitis	5	2	7
Pneumonia and Broncho-Pneumonia	50	46	96
Other Respiratory Diseases	8	1	9
Ulcer of Stomach	1	1	1
Other Diseases of the Stomach	.....	.....	.....
Diarrhea, Dysentery and Enteritis	13	14	27
Hernia, Intestinal Obstruction	1	2	3
Cirrhosis of Liver	12	3	15
Other Diseases of the Liver	3	5	8
Simple Peritonitis	.....	.....	.....
Appendicitis	5	1	6
Bright's Disease	19	25	44
Other Genito-Urinary Diseases	7	8	15
Puerperal Diseases	4	6	10
Senile Debility	5	1	6
Suicide	5	.....	5
Injuries	25	30	55
All Other Causes	25	18	43
Total	445	354	799

Still-born Children—White, 10; colored, 21; total, 31.

Population of City (estimated)—White, 276,000, colored, 102,000; total, 378,000.

Death Rate per 1000 per annum for Month—White, 19.35; colored, 41.65; total, 25.26.

METEOROLOGIC SUMMARY. (U. S. Weather Bureau.)

Mean atmospheric pressure 30.12
Mean temperature ..... 60.
Total precipitation ..... 4.12 inches
Prevailing direction of wind, southwest.